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Clean Last mile transport and logistics management

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C-LIEGE - *Clean Last mile transport and logistics management for smart and efficient local Governments in Europe*

OUTPUT n. 4.2

Definition of suitable set of actions/measures for an efficient and energy saving organization of goods transport and delivery in urban areas

Dissemination level: PUBLIC

Workpackage n. 4

Version: Final

Date of preparation 16/05/2012

Grant Agreement n. IEE/10/154/SI2.589407 – C-LIEGE

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Document Control Sheet

Project	C-LIEGE: Clean Last mile transport and logistics management for smart and efficient Local Governments in Europe
Grant Agreement n.	IEE/10/154/SI2.589407
Document Title	O4.2 Definition of suitable set of actions/measures for an efficient and energy saving organization of goods transport and delivery in urban areas
Nature	R: Report
Available languages	E: English
Dissemination level	Pu: PUBLIC
Version	Final
Date	16th May 2012
Number of pages	205
Archive name	O4.2_Push-and-pull_measures_database
Authors	John Bourn, Gary MacDonald (NCC)
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History	26/04/2012 – First draft 04/05/2012 – Second draft 11/05/2012 – Final version
Keywords	Push and pull measures, field of application, expected impacts, decision making process, planning, implementation and monitoring, innovativeness and transferability, good practices.

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1. Push and pull measures definition

A **"Push"** measure is one that is imposed on operators with a view to influencing delivery or operational practices. These can be divided into financial instruments (e.g. higher parking charges and road tolls) and technical and regulatory constraints (e.g. access restrictions). "Push" measures are closely related to more efficient and equitable transport pricing which seeks to require transport users (including freight operators) to bear a greater proportion of the real costs of their journeys, including costs of pollution, accidents and infrastructure.

A **"Pull"** measure is designed to encourage more sustainable and energy-efficient freight traffic by offering various additional services (eg, improved mapping), facilities (eg, preferential access to loading bays for "clean" vehicles) or incentives (eg, access to priority lanes) to operators or shippers. In many cases, the measures are combined with information and publicity campaigns designed to further reinforce the good practice measures.

"Push-and-Pull" measures involve a combination of the two, aimed at providing incentives for good practice whilst simultaneously using fiscal or technical tools to deter practices we wish to discourage.

2. Push and pull measures Database - List of measures

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Measure n° 44: Eco-driver training
Measure n° 45: Access restrictions for polluting freight vehicles

Measure 1: Local Freight Development Plans

Section 1: Description of the measure

1.1 Description of the measure

LFDPs are co-ordinated plans designed to rationalise freight movements and deliveries. They can cover a wide range of measures, depending on the unique characteristics of each town/city.

1.2 Type of measure

- ☐ "**Push**" measure (disincentive)
- ☒ "**Pull**" measure (incentive)
- ☐ Combination of "**push-and-pull**" measures (disincentive and incentive)

Section 2: Category of the measure/field of application

☒ **Administrative**

- ☐ Access restrictions
- ☒ Access incentives
- ☒ Advance booking (un)loading areas
- ☐ Low Emission/Environmental Zone

☐ **Financial**

- ☐ Mobility credits schemes
- ☐ Congestion charging
- ☐ Vehicle financing models

☐ **Organizational**

- ☐ Freight traffic routing information
- ☐ Alternative delivery systems

☐ **Technical**

- ☐ Intelligent freight traffic routing
- ☐ IT logistics tools

☒ **Awareness**

- ☒ Promotional and awareness campaigns
- ☐ Eco-driving
- ☐ Freight Operators Recognition Scheme (FORS)

☒ **Governance**

- ☒ Local Freight Development Plan (LFDP)
- ☐ Distribution plan-scheme
- ☐ Freight Quality Partnership (FQP)

☐ **Urban planning**

- ☐ Special urban planning conditions

Section 3: Expected impacts of the measure

3.1 Field of application/relevance

- ☒ Environmental (*air and noise pollution*)
- ☒ Energy (*energy consumption*)
- ☒ Economy (*retailers, manufactures, residents*)
- ☒ Safety and security (*drivers and vulnerable road users*)
- ☒ Transport efficiency (*optimization and costs efficiencies*)
- ☒ Land use and urban planning (*city administrations)*

3.2 Description of expected impacts of the measure (in qualitative terms)

This measure sheet is based on the reference example of Bologna, which has followed a French Study aimed at registering and cataloguing the different typologies of pull-in areas located in the city. Thanks to an algorithm, which includes different parameters such as the distance of the pull-in areas from the shops and the number of shops close to the area, this study assigns to every pull-in area a “preference coefficient” that will be used to identify the most useful pull-in areas in Bologna. The first eight pull-in areas identified through this study have been selected to introduce a booking-in-advance option for the companies which form part of a van sharing scheme. This is combined with a new permits system, booking-in-advance incentives and promotion activities.

La Rochelle has also introduced an FDP involving a methodology to optimise the development of goods distribution in medium-sized towns based on acquired knowledge: eg access restrictions, low impact vehicle delivery, collection zones to which retailers will go to collect their packages.

Section 4: Decision making process and involved stakeholders

4.1 Policy design of the measure

- ☒ Initiated/supported by public administrations
- ☐ Initiated/supported by private sector
- ☐ Initiated/supported by public-private partnerships

4.2 Involved and key supporting target group(s) stakeholders

- ☒ Administrations
- ☒ Freight carriers
- ☐ Shippers
- ☐ Residents

4.3 Description of concertation and cooperation levels with target group(s) stakeholders

In Bologna, the system was introduced with the support of local freight carriers. Any LFDP will only be successful if it has the co-operation of a wide range of stakeholders, especially in the UFT sector

4.4 Average time needed for the policy design, sharing and operation start-up of the measure

- ☐ Less than 6 months
- ☒ 6 to 36 months
- ☐ More than 36 months

Section 5: Planning, implementation and monitoring of the measure

5.1 Description of drivers for success

1) Active input and participation from all stakeholders 2) Adequate budget to deliver plan measures

5.2 Implementability (possible barriers)

☐ Possible political obstacles:

☐ Possible concertation and cooperation obstacles:

☐ Possible financial obstacles:

☐ Possible technical obstacles:

☐ Possible timeline obstacles: *Implementation barriers will vary depending on the extent of the local LFDP, the cost and nature of the measures.*

5.3 Innovativeness of the measure

Some LFDP measures may be relatively familiar, others (such as Bologna's use of an algorithm assigning to every pull-in area a "preference coefficient") are more innovative.

5.4 Transferability

LFDPs are applicable to all municipalities.

Section 6: Good practices example

6.1 Reference site(s)

- Country : **Italy**
- City : Bologna
- Population : 371,217
- Area in km2 : 140.7km^2 (54.3sqmi)

6.2 Description of effectiveness of the measure (in qualitative or quantitative terms)

Bologna expects that by the end of the measure, there will be an average reduction in deliveries of about 10 percent a year, a 25 percent reduction in freight vehicle access to the limited traffic zone and an average reduction of the occupation rate of parking spaces for the loading and unloading of goods.

6.3 Lesson learned

The willingness of freight operators to join the van sharing incentive scheme was a crucial success factor.

6.4 More information: C-LIEGE UFT Database – Good Practice (GP) **Number 26**

Measure 2: Inclusion of Freight in Urban Mobility Plans

Section 1: Description of the measure

1.1 Description of the measure

This measure aims to develop common European quality standards and processes for implementing and evaluating sustainable urban mobility plans, whilst also including clear performance indicators of the reduction of energy use and CO2 emissions. By involving various selected and experienced mobility management experts and cities all over Europe in the collaborative research approach, experiences and knowledge regarding benchmarks, standards and energy savings are exchanged and disseminated. From a C-LIEGE standpoint, it will need to be ensured that such plans fully recognise the role of UFT.

1.2 Type of measure

- ☐ "**Push**" measure (disincentive)
- ☐ "**Pull**" measure (incentive)
- ☒ Combination of "**push-and-pull**" measures (disincentive and incentive)

Section 2: Category of the measure/field of application
The urban mobility plan could include some or all of the following categories

☒ **Administrative**

- ☐ Access restrictions
- ☐ Access incentives
- ☐ Advance booking (un)loading areas
- ☐ Low Emission/Environmental Zone

☒ **Financial**

- ☐ Mobility credits schemes
- ☐ Congestion charging
- ☐ Vehicle financing models

☒ **Organizational**

- ☐ Freight traffic routing information

☐ Alternative delivery systems

☒ **Technical**

☐ Intelligent freight traffic routing

☐ IT logistics tools

☒ **Awareness**

☐ Promotional and awareness campaigns

☐ Eco-driving

☐ Freight Operators Recognition Scheme (FORS)

☒ **Governance**

☒ Local Freight Development Plan (LFDP)

☐ Distribution plan-scheme

☐ Freight Quality Partnership (FQP)

☒ **Urban planning**

☐ Special urban planning conditions

Section 3: Expected impacts of the measure

3.1 Field of application/relevance

☒ Environmental (*air and noise pollution*)

☒ Energy (*energy consumption*)

☒ Economy (*retailers, manufactures, residents*)

☒ Safety and security (*drivers and vulnerable road users*)

☒ Transport efficiency (*optimization and costs efficiencies*)

☒ Land use and urban planning (*city administrations)*

3.2 Description of expected impacts of the measure (in qualitative terms)

Key objectives of such plans include reduction in energy consumption and congestion, with benefits for the environment, air quality and the wider quality of life.

Section 4: Decision making process and involved stakeholders

4.1 Policy design of the measure

- ☒ Initiated/supported by public administrations
- ☐ Initiated/supported by private sector
- ☐ Initiated/supported by public-private partnerships

4.2 Involved and key supporting target group(s) stakeholders

- ☒ Administrations
- ☐ Freight carriers
- ☐ Shippers
- ☐ Residents

4.3 Description of concertation and cooperation levels with target group(s) stakeholders

This process will need the co-operation of a wide range of stakeholders, especially in the UFT sector to ensure their interests are not overlooked

4.4 Average time needed for the policy design, sharing and operation start-up of the measure

- ☐ Less than 6 months
- ☒ 6 to 36 months
- ☐ More than 36 months

Section 5: Planning, implementation and monitoring of the measure

5.1 Description of drivers for success

1) Active input and participation from all stakeholders 2) Adequate budget to carry out necessary research and collaboration

5.2 Implementability (possible barriers)

- ☐ Possible political obstacles:
- ☐ Possible concertation and cooperation obstacles:

☐ Possible financial obstacles:

☒ Possible technical obstacles: *This project is not specifically focused on UFT so some of the content will not be relevant to the C-LIEGE project.*

☒ Possible timeline obstacles: *This is, by its nature, a long-term project which is unlikely to deliver early improvements to the efficient operation of UFT.*

5.3 Innovativeness of the measure

The measure aims to develop common European quality standards and processes for implementing and evaluating sustainable urban mobility plans while also including clear performance indicators of the reduction of energy use and CO2 emissions.

5.4 Transferability

Applicable to all municipalities.

Section 6: Good practices example

6.1 Reference site(s)

- Country : **Poland**
- City : Szczecin
- Population : 407,811
- Area in km2 : 301km^2 (116sq mi)

6.2 Description of effectiveness of the measure (in qualitative or quantitative terms)

The measure assumes reduction of 0,075tons of CO2e emissions per capita per year by 2020 (five years after the audit).

6.3 Lesson learned

The willingness of freight operators to join the van sharing incentive scheme was a crucial success factor.

6.4 More information: C-LIEGE UFT Database – Good Practice (GP) **Number 41**

Measure 3: Construction Logistics Plans

Section 1: Description of the measure

1.1 Description of the measure

By combining travel planning with a Good Neighbour Policy, and other possible measures such as Fleet Recognition, traffic and delivery management to new construction sites can be made more efficient, benefiting the economy and mitigating the social and environmental impact of major construction work.

1.2 Type of measure

- ☐ "**Push**" measure (disincentive)
- ☐ "**Pull**" measure (incentive)
- ☒ Combination of "**push-and-pull**" measures (disincentive and incentive)

Section 2: Category of the measure/field of application

☒ **Administrative**

- ☒ Access restrictions
- ☐ Access incentives
- ☐ Advance booking (un)loading areas
- ☐ Low Emission/Environmental Zone

☐ **Financial**

- ☐ Mobility credits schemes
- ☐ Congestion charging
- ☐ Vehicle financing models

☒ **Organizational**

- ☐ Freight traffic routing information
- ☒ Alternative delivery systems

☐ **Technical**

- ☐ Intelligent freight traffic routing
- ☐ IT logistics tools

☒ **Awareness**

- ☒ Promotional and awareness campaigns
- ☐ Eco-driving
- ☒ Freight Operators Recognition Scheme (FORS)

☒ **Governance**

- ☐ Local Freight Development Plan (LFDP)
- ☒ Distribution plan-scheme
- ☐ Freight Quality Partnership (FQP)

☐ **Urban planning**

- ☐ Special urban planning conditions

Section 3: Expected impacts of the measure

3.1 Field of application/relevance

- ☒ Environmental (*air and noise pollution*)
- ☒ Energy (*energy consumption*)
- ☒ Economy (*retailers, manufactures, residents*)
- ☒ Safety and security (*drivers and vulnerable road users*)
- ☒ Transport efficiency (*optimization and costs efficiencies*)
- ☒ Land use and urban planning (*city administrations)*

3.2 Description of expected impacts of the measure (in qualitative terms)

More efficient freight movements Reduced social and environmental impacts associated with the servicing of major construction schemes

Section 4: Decision making process and involved stakeholders

4.1 Policy design of the measure

- ☒ Initiated/supported by public administrations
- ☐ Initiated/supported by private sector
- ☐ Initiated/supported by public-private partnerships

4.2 Involved and key supporting target group(s) stakeholders

- ☒ Administrations
- ☒ Freight carriers
- ☐ Shippers
- ☒ Residents

4.3 Description of concertation and cooperation levels with target group(s) stakeholders

Requires liaison with construction site management, freight movers and local residents

4.4 Average time needed for the policy design, sharing and operation start-up of the measure

- ☐ Less than 6 months
- ☒ 6 to 36 months
- ☐ More than 36 months

Section 5: Planning, implementation and monitoring of the measure

5.1 Description of drivers for success

Active input and participation from all stakeholders

5.2 Implementability (possible barriers)

- ☐ Possible political obstacles:
- ☐ Possible concertation and cooperation obstacles:
- ☐ Possible financial obstacles:

☐ Possible technical obstacles:

☐ Possible timeline obstacles:

5.3 Innovativeness of the measure

Schemes of this kind involve a number of recognised “good practice” measures used in cohesion.

5.4 Transferability

Transferrable to any location where major construction work is likely to cause an increase in site traffic.

Section 6: Good practices example

6.1 Reference site(s)

- Country :***UK***
- City : *Croydon/London*
- Population : 330,587
- Area in km^2 : 86.52 km^2 (33.41 sq mi)

6.2 Description of effectiveness of the measure (in qualitative or quantitative terms)

Tangible environmental benefits. Tangible energy consumption benefits. Tangible social benefits.

6.3 Lesson learned

6.4 More information: C-LIEGE UFT Database – Good Practice (GP) **Number 37**

Measure 4: Using Distribution Plans to reduce the frequency of deliveries in public procurement

Section 1: Description of the measure

1.1 Description of the measure

Distribution Plans can be used to streamline deliveries of stationery, and other goods, to large public bodies that require large volumes of goods. By rationalising and consolidating the delivery process, economic and environmental benefits can be achieved.

1.2 Type of measure

- ☒ "**Push**" measure (disincentive)
- ☐ "**Pull**" measure (incentive)
- ☐ Combination of "**push-and-pull**" measures (disincentive and incentive)

Section 2: Category of the measure/field of application

☐ **Administrative**

- ☐ Access restrictions
- ☐ Access incentives
- ☐ Advance booking (un)loading areas
- ☐ Low Emission/Environmental Zone

☐ **Financial**

- ☐ Mobility credits schemes
- ☐ Congestion charging
- ☐ Vehicle financing models

☒ **Organizational**

- ☐ Freight traffic routing information
- ☒ Alternative delivery systems

☐ **Technical**

- ☐ Intelligent freight traffic routing
- ☐ IT logistics tools

☒ **Awareness**

- ☒ Promotional and awareness campaigns
- ☐ Eco-driving
- ☐ Freight Operators Recognition Scheme (FORS)

☒ **Governance**

- ☐ Local Freight Development Plan (LFDP)
- ☒ Distribution plan-scheme
- ☐ Freight Quality Partnership (FQP)

☐ **Urban planning**

- ☐ Special urban planning conditions

Section 3: Expected impacts of the measure

3.1 Field of application/relevance

- ☒ Environmental (*air and noise pollution*)
- ☒ Energy (*energy consumption*)
- ☐ Economy (*retailers, manufactures, residents*)
- ☐ Safety and security (*drivers and vulnerable road users*)
- ☐ Transport efficiency (*optimization and costs efficiencies*)
- ☒ Land use and urban planning (*city administrations)*

3.2 Description of expected impacts of the measure (in qualitative terms)

Reduction in vehicle trips and number of vehicles, resulting in lower emissions and economic benefits.

Section 4: Decision making process and involved stakeholders

4.1 Policy design of the measure

- ☒ Initiated/supported by public administrations
- ☐ Initiated/supported by private sector
- ☐ Initiated/supported by public-private partnerships

4.2 Involved and key supporting target group(s) stakeholders

- ☒ Administrations
- ☒ Freight carriers
- ☐ Shippers
- ☐ Residents

4.3 Description of concertation and cooperation levels with target group(s) stakeholders

4.4 Average time needed for the policy design, sharing and operation start-up of the measure

- ☐ Less than 6 months
- ☒ 6 to 36 months
- ☐ More than 36 months

Section 5: Planning, implementation and monitoring of the measure

5.1 Description of drivers for success

The new method of delivery provides a tangible example to local residents and politicians of the benefits from sustainable delivery methods. Through making a modal shift to using bicycles for stationery deliveries in Sutton, the service demonstrates to residents and businesses the Council's commitment to Smarter Travel Sutton and One Planet Sutton. Furthermore, the deliveries are made to local politicians. As they are the decision makers, it is useful to demonstrate the delivery service to them before proposing plans to expand the service. The measure also provides a working example of zero and low emission local delivery to encourage local businesses to try it out.

5.2 Implementability (possible barriers)

- ☐ Possible political obstacles:
- ☐ Possible concertation and cooperation obstacles:
- ☐ Possible financial obstacles:
- ☐ Possible technical obstacles:
- ☐ Possible timeline obstacles:

5.3 Innovativeness of the measure

Use of an electric assisted trike is part of the services in Sutton. The electric assist trike is charged via 100% renewable energy. The delivery times in the afternoon and evening mean they are not contributing to congestion on the roads earlier in the day. This is an innovation in terms of local authority delivery methods in the UK.

5.4 Transferability

Should be transferrable to many other public bodies, in respect of deliveries of less bulky goods (such as stationery).

Section 6: Good practices example

6.1 Reference site(s)

- Country : **UK**
- City : Croydon and Sutton/London
- Population : 345,600, :194,200
- Area in km2 : 86.52 km^2 :43 km^2 (17 sq mi)

6.2 Description of effectiveness of the measure (in qualitative or quantitative terms)

The zero emission delivery service in Sutton executed by EcoLocal resulted in a financial saving as the rates charged by EcoLocal are less than those previously charged by the courier service. The carbon emission calculations for this measure in Sutton estimate a CO2 saving of approximately 1.7 tonnes per annum and 3.4 tonnes over the two year duration of the contract, in comparison with a medium sized car driving in traffic. This equates to a saving of 634 litres of fuel saved per annum. The measure contributes to a direct carbon reduction within the local authority area as per National Indicator NI 186 rather than via a carbon offsetting scheme where any notional indirect reduction would be likely to be overseas.

An electric assisted trike is used as a part of the services in Sutton. The electric assist trike is charged via 100% renewable energy. The delivery times in the afternoon and evening mean they are not contributing to congestion on the roads earlier in the day. Through making a modal shift to using bicycles for stationery deliveries in Sutton, the service demonstrates to residents and businesses the Council's commitment to Smarter Travel Sutton and One Planet Sutton. The deliveries are made to politicians (the councillors). They are the decision makers and it is useful to demonstrate the delivery service to them before proposing plans to expand the service. The measure provides a working example of zero and low emission local delivery to encourage local businesses to try it out. The zero emission delivery service of EcoLocal provides employment for local people.

6.3 Lesson learned

Further opportunities to use the local zero emission delivery service will be explored. For example, internal post between the buildings occupied by London Borough of Sutton could be piloted. By including deliveries to local politicians, this helps to secure political support for future expansion of the measures.

6.4 More information:

C-LIEGE UFT Database – Good Practice (GP) **Number 38**

Measure 5: Charging for distribution operations in central areas

Section 1: Description of the measure

1.1 Description of the measure

To reduce the negative effects of goods distribution in city centres, it is proposed to develop distribution schemes which intervene on an administrative level rather than on logistical or technical levels. By varying costs to enter the city centre depending on the different types of vehicles and distribution needs, more sustainable and energy-efficient freight movement can be encouraged.

1.2 Type of measure

- ☐ "**Push**" measure (disincentive)
- ☐ "**Pull**" measure (incentive)
- ☒ Combination of "**push-and-pull**" measures (disincentive and incentive)

Section 2: Category of the measure/field of application

☒ **Administrative**

- ☒ Access restrictions
- ☒ Access incentives
- ☐ Advance booking (un)loading areas
- ☐ Low Emission/Environmental Zone

☒ **Financial**

- ☒ Mobility credits schemes
- ☐ Congestion charging
- ☐ Vehicle financing models

☐ **Organizational**

- ☐ Freight traffic routing information
- ☐ Alternative delivery systems

☐ **Technical**

- ☐ Intelligent freight traffic routing
- ☐ IT logistics tools

☐ **Awareness**

- ☐ Promotional and awareness campaigns
- ☐ Eco-driving
- ☐ Freight Operators Recognition Scheme (FORS)

☒ **Governance**

- ☐ Local Freight Development Plan (LFDP)
- ☐ Distribution plan-scheme
- ☐ Freight Quality Partnership (FQP)

☐ **Urban planning**

- ☐ Special urban planning conditions

Section 3: Expected impacts of the measure

3.1 Field of application/relevance

- ☒ Environmental (*air and noise pollution*)
- ☒ Energy (*energy consumption*)
- ☐ Economy (*retailers, manufactures, residents*)
- ☐ Safety and security (*drivers and vulnerable road users*)
- ☐ Transport efficiency (*optimization and costs efficiencies*)
- ☐ Land use and urban planning (*city administrations)*

3.2 Description of expected impacts of the measure (in qualitative terms)

More efficient freight movements Reduced social and environmental impacts

Section 4: Decision making process and involved stakeholders

4.1 Policy design of the measure

☒ Initiated/supported by public administrations

☐ Initiated/supported by private sector

☐ Initiated/supported by public-private partnerships

4.2 Involved and key supporting target group(s) stakeholders

☒ Administrations

☒ Freight carriers

☒ Shippers

☒ Residents

4.3 Description of concertation and cooperation levels with target group(s) stakeholders

Requires liaison with freight carriers, shippers and local residents

4.4 Average time needed for the policy design, sharing and operation start-up of the measure

☐ Less than 6 months

☒ 6 to 36 months

☐ More than 36 months

Section 5: Planning, implementation and monitoring of the measure

5.1 Description of drivers for success

Active input and participation from all stakeholders

5.2 Implementability (possible barriers)

☐ Possible political obstacles:

☒ Possible concertation and cooperation obstacles: *Operators of older vehicles, who are likely to face increased costs, will oppose the scheme*

☒ Possible financial obstacles: *Cost of setting up a charging infrastructure and the necessary enforcement*

☐ Possible technical obstacles:

☐ Possible timeline obstacles:

5.3 Innovativeness of the measure

There are a number of charging schemes in place elsewhere. However, the concept of varying costs to enter the city centre depending on the different types of vehicles and distribution needs is quite innovative.

5.4 Transferability

Most applicable to larger municipalities, where congestion and air quality are a problem and resources are available to implement a charging scheme.

Section 6: Good practices example

6.1 Reference site(s)

- Country : ***Romania***
- City : *Craiova*
- Population : *243,765*
- Area in km2 : *81.4 km^2 (31.4 sq mi)*

6.2 Description of effectiveness of the measure (in qualitative or quantitative terms)

Expected to reduce the emissions level in central area by 10 % and reduce the freight vehicles traffic flow by 40%.

6.3 Lesson learned

6.4 More information: C-LIEGE UFT Database – Good Practice (GP) **Number 39**

Measure 6: Delivery and Servicing Plans (DSPs)

Section 1: Description of the measure

1.1 Description of the measure

DSPs involve local municipalities working with organisations across the city in question to develop and implement DSP frameworks to enable businesses to achieve efficiencies in deliveries.

1.2 Type of measure

- ☐ "**Push**" measure (disincentive)
- ☐ "**Pull**" measure (incentive)
- ☒ Combination of "**push-and-pull**" measures (disincentive and incentive)

Section 2: Category of the measure/field of application

☒ **Administrative**

- ☒ Access restrictions
- ☒ Access incentives
- ☐ Advance booking (un)loading areas
- ☐ Low Emission/Environmental Zone

☐ **Financial**

- ☐ Mobility credits schemes
- ☐ Congestion charging
- ☐ Vehicle financing models

☒ **Organizational**

- ☐ Freight traffic routing information
- ☒ Alternative delivery systems

☐ **Technical**

- ☐ Intelligent freight traffic routing
- ☐ IT logistics tools

☐ **Awareness**

- ☐ Promotional and awareness campaigns
- ☐ Eco-driving
- ☐ Freight Operators Recognition Scheme (FORS)

☐ **Governance**

- ☐ Local Freight Development Plan (LFDP)
- ☐ Distribution plan-scheme
- ☐ Freight Quality Partnership (FQP)

☐ **Urban planning**

- ☐ Special urban planning conditions

Section 3: Expected impacts of the measure

3.1 Field of application/relevance

- ☒ Environmental (*air and noise pollution*)
- ☒ Energy (*energy consumption*)
- ☒ Economy (*retailers, manufactures, residents*)
- ☐ Safety and security (*drivers and vulnerable road users*)
- ☒ Transport efficiency (*optimization and costs efficiencies*)
- ☐ Land use and urban planning (*city administrations)*

3.2 Description of expected impacts of the measure (in qualitative terms)

More efficient freight movements Reduced social and environmental impacts

Section 4: Decision making process and involved stakeholders

4.1 Policy design of the measure

- ☒ Initiated/supported by public administrations
- ☐ Initiated/supported by private sector
- ☐ Initiated/supported by public-private partnerships

4.2 Involved and key supporting target group(s) stakeholders

- ☒ Administrations
- ☒ Freight carriers
- ☒ Shippers
- ☐ Residents

4.3 Description of concertation and cooperation levels with target group(s) stakeholders

Requires liaison with freight carriers, shippers and main delivery destinations

4.4 Average time needed for the policy design, sharing and operation start-up of the measure

- ☐ Less than 6 months
- ☒ 6 to 36 months
- ☐ More than 36 months

Section 5: Planning, implementation and monitoring of the measure

5.1 Description of drivers for success

Active input and participation from all stakeholders

5.2 Implementability (possible barriers)

- ☐ Possible political obstacles:
- ☐ Possible concertation and cooperation obstacles:
- ☐ Possible financial obstacles:

☐ Possible technical obstacles:

☐ Possible timeline obstacles:

5.3 Innovativeness of the measure

A number of schemes of this kind are already in place

5.4 Transferability

Transferrable to any location

Section 6: Good practices example

6.1 Reference site(s)

- Country : ***UK***
- City : *Newcastle upon Tyne*
- Population : 292,200
- Area in km^2 : 113 km^2 (44 sq mi)

6.2 Description of effectiveness of the measure (in qualitative or quantitative terms)

Measure has not yet started but expected to deliver: Tangible environmental benefits Tangible energy consumption benefits Tangible social benefits

6.3 Lesson learned

Measure has not yet started

6.4 More information: C-LIEGE UFT Database – Good Practice (GP) **Number 40**

Measure 7: Free-to-use loading bays

Section 1: Description of the measure

1.1 Description of the measure

Operators who meet certain criteria set by the city administration are offered free access to loading bays, offering an incentive towards the use of “cleaner” vehicles.

1.2 Type of measure

- ☐ “**Push**” measure (disincentive)
- ☒ “**Pull**” measure (incentive)
- ☐ Combination of “**push-and-pull**” measures (disincentive and incentive)

Section 2: Category of the measure/field of application

☒ **Administrative**

- ☐ Access restrictions
- ☒ Access incentives
- ☐ Advance booking (un)loading areas
- ☐ Low Emission/Environmental Zone

☐ **Financial**

- ☐ Mobility credits schemes
- ☐ Congestion charging
- ☐ Vehicle financing models
- ☐ Organizational
- ☐ Freight traffic routing information
- ☐ Alternative delivery systems

☐ **Technical**

- ☐ Intelligent freight traffic routing

☐ IT logistics tools

☐ **Awareness**

☐ Promotional and awareness campaigns

☐ Eco-driving

☐ Freight Operators Recognition Scheme (FORS)

☐ **Governance**

☐ Local Freight Development Plan (LFDP)

☐ Distribution plan-scheme

☐ Freight Quality Partnership (FQP)

☐ **Urban planning**

☐ Special urban planning conditions

Section 3: Expected impacts of the measure

3.1 Field of application/relevance

☒ Environmental (*air and noise pollution*)

☒ Energy (*energy consumption*)

☒ Economy (*retailers, manufactures, residents*)

☐ Safety and security (*drivers and vulnerable road users*)

☐ Transport efficiency (*optimization and costs efficiencies*)

☐ Land use and urban planning (*city administrations)*

3.2 Description of expected impacts of the measure (in qualitative terms)

More efficient freight movements
Reduced costs for compliant operators
Reduced social and environmental impacts

Section 4: Decision making process and involved stakeholders

4.1 Policy design of the measure

- ☒ Initiated/supported by public administrations
- ☐ Initiated/supported by private sector
- ☐ Initiated/supported by public-private partnerships

4.2 Involved and key supporting target group(s) stakeholders

- ☒ Administrations
- ☒ Freight carriers
- ☒ Shippers
- ☐ Residents

4.3 Description of concertation and cooperation levels with target group(s) stakeholders

Requires liaison with freight carriers, shippers and main delivery destinations

4.4 Average time needed for the policy design, sharing and operation start-up of the measure

- ☐ Less than 6 months
- ☒ 6 to 36 months
- ☐ More than 36 months

Section 5: Planning, implementation and monitoring of the measure

5.1 Description of drivers for success

Active input and participation from all stakeholders

5.2 Implementability (possible barriers)

- ☐ Possible political obstacles:
- ☐ Possible concertation and cooperation obstacles:
- ☐ Possible financial obstacles:
- ☐ Possible technical obstacles:
- ☐ Possible timeline obstacles:

5.3 Innovativeness of the measure

A number of schemes of this kind are already in place

5.4 Transferability

Transferrable to any location

Section 6: Good practices example

6.1 Reference site(s)

- Country : ***Sweden***
- City : *Gothenburg*
- Population : 520,374
- Area in km^2 : 450 km^2 (170 sq mi)

6.2 Description of effectiveness of the measure (in qualitative or quantitative terms)

Combined with other measures, this incentive has been very efficient and has reduced the number of vehicle movements by 50 % on some streets.

6.3 Lesson learned

Close involvement of all stakeholders, including Traffic & Public Transport Authority, Swedish Road Haulage Association, and various Haulage Companies (GB Framåt, Posten, TGM, Bäckebols åkeri, Stadens Bud, Carlsberg)

6.4 More information: C-LIEGE UFT Database – Good Practice (GP) **Number 44**

Measure 8: Free access to public transport lanes

Section 1: Description of the measure

1.1 Description of the measure

Freight vehicles are allowed free access to public transport priority lanes. In some cases, they must meet certain criteria set by the city administration to qualify for access, offering an incentive towards the use of "cleaner" vehicles.

1.2 Type of measure

- ☐ "**Push**" measure (disincentive)
- ☒ "**Pull**" measure (incentive)
- ☐ Combination of "**push-and-pull**" measures (disincentive and incentive)

Section 2: Category of the measure/field of application

☒ **Administrative**

- ☐ Access restrictions
- ☒ Access incentives
- ☐ Advance booking (un)loading areas
- ☐ Low Emission/Environmental Zone

☐ **Financial**

- ☐ Mobility credits schemes
- ☐ Congestion charging
- ☐ Vehicle financing models

☐ **Organizational**

- ☐ Freight traffic routing information
- ☐ Alternative delivery systems

☐ **Technical**

- ☐ Intelligent freight traffic routing

- ☐ IT logistics tools

☐ **Awareness**

- ☐ Promotional and awareness campaigns
- ☐ Eco-driving
- ☐ Freight Operators Recognition Scheme (FORS)

☐ **Governance**

- ☐ Local Freight Development Plan (LFDP)
- ☐ Distribution plan-scheme
- ☐ Freight Quality Partnership (FQP)

☐ **Urban planning**

- ☐ Special urban planning conditions

Section 3: Expected impacts of the measure

3.1 Field of application/relevance

- ☒ Environmental (*air and noise pollution*)
- ☒ Energy (*energy consumption*)
- ☒ Economy (*retailers, manufactures, residents*)
- ☐ Safety and security (*drivers and vulnerable road users*)
- ☐ Transport efficiency (*optimization and costs efficiencies*)
- ☐ Land use and urban planning (*city administrations)*

3.2 Description of expected impacts of the measure (in qualitative terms)

More efficient freight movements
Reduced costs for compliant operators
Reduced social and environmental impacts

Section 4: Decision making process and involved stakeholders

4.1 Policy design of the measure

☒ Initiated/supported by public administrations

☐ Initiated/supported by private sector

☐ Initiated/supported by public-private partnerships

4.2 Involved and key supporting target group(s) stakeholders

☒ Administrations

☒ Freight carriers

☒ Shippers

☐ Residents

4.3 Description of concertation and cooperation levels with target group(s) stakeholders

Requires liaison with other users of priority lanes (eg, buses, cyclists) and with the freight sector

4.4 Average time needed for the policy design, sharing and operation start-up of the measure

☐ Less than 6 months

☒ 6 to 36 months

☐ More than 36 months

Section 5: Planning, implementation and monitoring of the measure

5.1 Description of drivers for success

Active input and participation from all stakeholders

5.2 Implementability (possible barriers)

☐ Possible political obstacles

☒ Possible concertation and cooperation obstacles: *There may be concern from bus operators that allowing other vehicles into priority lanes will slow down journeys and*

reduce reliability. Cyclists may be concerned about adverse effects on safety from allowing large lorries into priority lanes

☐ Possible financial obstacles:

☐ Possible technical obstacles:

☐ Possible timeline obstacles:

5.3 Innovativeness of the measure

A number of cities already allow freight vehicles to use priority lanes

5.4 Transferability

Transferrable to any town/city where priority lanes are in place

Section 6: Good practices example

6.1 Reference site(s)

- Country : ***Sweden***
- City : *Gothenburg*
- Population : 520,374
- Area in km^2 : 450 km^2 (170 sq mi)

(In addition to Gothenburg, Newcastle upon Tyne also allows freight vehicles into its priority lanes – called "No-Car Lanes")

6.2 Description of effectiveness of the measure (in qualitative or quantitative terms)

Combined with other measures, this incentive has been very efficient and has reduced the number of vehicle movements by 50 % on some streets.

6.3 Lesson learned

Close involvement of all stakeholders, including Traffic & Public Transport Authority, Swedish Road Haulage Association and various Haulage Companies (GB Framåt, Posten, TGM, Bäckebols åkeri, Stadens Bud, Carlsberg). In Newcastle, the use of No-Car Lanes has been favourably received by the Tyne and Wear Freight Partnership, and there is no evidence of increased delays for buses or adverse effects on safety

6.4 More information: C-LIEGE UFT Database – Good Practice (GP) **Number 44**

Measure 9: Changing traffic regulations to improve freight access

Section 1: Description of the measure

1.1 Description of the measure

Traffic regulations, such as one-way streets, are modified to ensure easier access and routing for freight vehicles, enabling more efficient planning of distribution routes. In some cases, they must meet certain criteria set by the city administration to qualify for access, offering an incentive towards the use of "cleaner" vehicles.

1.2 Type of measure

- ☐ "**Push**" measure (disincentive)
- ☒ "**Pull**" measure (incentive)
- ☐ Combination of "**push-and-pull**" measures (disincentive and incentive)

Section 2: Category of the measure/field of application

☒ **Administrative**

- ☐ Access restrictions
- ☒ Access incentives
- ☐ Advance booking (un)loading areas
- ☐ Low Emission/Environmental Zone

☐ **Financial**

- ☐ Mobility credits schemes
- ☐ Congestion charging
- ☐ Vehicle financing models

☒ **Organizational**

- ☒ Freight traffic routing information
- ☐ Alternative delivery systems

☐ **Technical**

- ☐ Intelligent freight traffic routing
- ☐ IT logistics tools

☐ **Awareness**

- ☐ Promotional and awareness campaigns
- ☐ Eco-driving
- ☐ Freight Operators Recognition Scheme (FORS)

☐ **Governance**

- ☐ Local Freight Development Plan (LFDP)
- ☐ Distribution plan-scheme
- ☐ Freight Quality Partnership (FQP)

☐ **Urban planning**

- ☐ Special urban planning conditions

Section 3: Expected impacts of the measure

3.1 Field of application/relevance

- ☒ Environmental (*air and noise pollution*)
- ☒ Energy (*energy consumption*)
- ☒ Economy (*retailers, manufactures, residents*)
- ☐ Safety and security (*drivers and vulnerable road users*)
- ☐ Transport efficiency (*optimization and costs efficiencies*)
- ☐ Land use and urban planning (*city administrations)*

3.2 Description of expected impacts of the measure (in qualitative terms)

More efficient freight movements Reduced costs for compliant operators Reduced social and environmental impacts

Section 4: Decision making process and involved stakeholders

4.1 Policy design of the measure

☒ Initiated/supported by public administrations

☐ Initiated/supported by private sector

☐ Initiated/supported by public-private partnerships

4.2 Involved and key supporting target group(s) stakeholders

☒ Administrations

☒ Freight carriers

☒ Shippers

☐ Residents

4.3 Description of concertation and cooperation levels with target group(s) stakeholders

Requires liaison with city Traffic Managers and possibly other road users

4.4 Average time needed for the policy design, sharing and operation start-up of the measure

☐ Less than 6 months

☒ 6 to 36 months

☐ More than 36 months

Section 5: Planning, implementation and monitoring of the measure

5.1 Description of drivers for success

Active input and participation from all stakeholders.

5.2 Implementability (possible barriers)

☐ Possible political obstacles:

☒ Possible concertation and cooperation obstacles: *There may be concern from other road users about adverse effects on safety from changing traffic regulations to facilitate easier access by freight vehicles (particularly large lorries). A safety audit may be needed to address such concerns.*

☐ Possible financial obstacles:

☐ Possible technical obstacles:

☐ Possible timeline obstacles:

5.3 Innovativeness of the measure

We are not aware of other sites where traffic regulations have been changed to enable easier freight access.

5.4 Transferability

Transferrable to any town/city where it is feasible to change traffic regulations in this way.

Section 6: Good practices example

6.1 Reference site(s)

- Country : ***Sweden***
- City : *Gothenburg*
- Population : 520,374
- Area in km^2 : 450 km^2 (170 sq mi)

6.2 Description of effectiveness of the measure (in qualitative or quantitative terms)

Combined with other measures, this incentive has been very efficient and has reduced the number of vehicle movements by 50 % on some streets.

6.3 Lesson learned

Close involvement of all stakeholders, including Traffic & Public Transport Authority, Swedish Road Haulage Association and various Haulage Companies (GB Framåt, Posten, TGM, Bäckebols åkeri, Stadens Bud, Carlsberg).

6.4 More information: C-LIEGE UFT Database – Good Practice (GP) **Number 44**

Measure 10: Financial support for fleet conversion
Section 1: Description of the measure

1.1 Description of the measure

This measure involves the provision of financial support to accelerate the renewal of commercial and non-commercial fleets through a new incentive campaign targeting the acquisition of CNG, bio diesel and other low impact vehicles. Agreements can be signed with trade associations for their own fleet replacement and large scale promotion/marketing campaigns can be used to encourage fleet renewal.

1.2 Type of measure

- ☐ "**Push**" measure (disincentive)
- ☒ "**Pull**" measure (incentive)
- ☐ Combination of "**push-and-pull**" measures (disincentive and incentive)

Section 2: Category of the measure/field of application

- ☐ **Administrative**
  - ☐ Access restrictions
  - ☐ Access incentives
  - ☐ Advance booking (un)loading areas
  - ☐ Low Emission/Environmental Zone
- ☐ **Financial**
  - ☐ Mobility credits schemes
  - ☐ Congestion charging
  - ☐ Vehicle financing models
- ☐ **Organizational**
  - ☐ Freight traffic routing information
  - ☐ Alternative delivery systems

☐ **Technical**

- ☐ Intelligent freight traffic routing
- ☐ IT logistics tools

☒ **Awareness**

- ☒ Promotional and awareness campaigns
- ☐ Eco-driving
- ☐ Freight Operators Recognition Scheme (FORS)

☐ **Governance**

- ☐ Local Freight Development Plan (LFDP)
- ☐ Distribution plan-scheme
- ☐ Freight Quality Partnership (FQP)

☐ **Urban planning**

- ☐ Special urban planning conditions

Section 3: Expected impacts of the measure

3.1 Field of application/relevance

- ☒ Environmental (*air and noise pollution*)
- ☒ Energy (*energy consumption*)
- ☐ Economy (*retailers, manufactures, residents*)
- ☐ Safety and security (*drivers and vulnerable road users*)
- ☐ Transport efficiency (*optimization and costs efficiencies*)
- ☐ Land use and urban planning (*city administrations)*

3.2 Description of expected impacts of the measure (in qualitative terms)

Reduced energy consumption and environmental impacts

Section 4: Decision making process and involved stakeholders

4.1 Policy design of the measure

- ☒ Initiated/supported by public administrations
- ☐ Initiated/supported by private sector
- ☐ Initiated/supported by public-private partnerships

4.2 Involved and key supporting target group(s) stakeholders

- ☒ Administrations
- ☒ Freight carriers
- ☒ Shippers
- ☒ Residents

4.3 Description of concertation and cooperation levels with target group(s) stakeholders

Requires liaison with freight sector and trade associations.

4.4 Average time needed for the policy design, sharing and operation start-up of the measure

- ☐ Less than 6 months
- ☒ 6 to 36 months
- ☐ More than 36 months

Section 5: Planning, implementation and monitoring of the measure

5.1 Description of drivers for success

Active input and participation from all stakeholders.

5.2 Implementability (possible barriers)

- ☐ Possible political obstacles:
- ☐ Possible concertation and cooperation obstacles:

☒ Possible financial obstacles: *Due to EU State Aid regulations, it is not possible to give a direct financial contribution to assist in replacement of vehicles*

☐ Possible technical obstacles:

☐ Possible timeline obstacles:

5.3 Innovativeness of the measure

This is an innovative measure which has been trialled successfully in Ravenna, Italy

5.4 Transferability

Transferrable to any town/city where it is desirable to encourage a faster rate of vehicle replacement.

Section 6: Good practices example

6.1 Reference site(s)

- Country : **Italy**
- City : Ravenna
- Population : 159,497
- Area in km^2 : 652.89 km^2 (252.08 sq mi)

6.2 Description of effectiveness of the measure (in qualitative or quantitative terms)

The number of clean vehicles has increased by 3.925 (3761 private, 24 taxis, 40 artisans, 100 commercial vehicles). As these figures show, the main benefit has been in respect of private vehicles but there has also been some progress in respect of the commercial vehicle fleet

6.3 Lesson learned

Close involvement of all stakeholders, including Municipality of Ravenna, ITL (Istituto sui Trasporti e la Logistica) and CONSAR (CONSorzio Autotrasportatori Ravenna)

6.4 More information: C-LIEGE UFT Database – Good Practice (GP) **Number 45**

Measure 11: Enactment of access "time windows"

Section 1: Description of the measure

1.1 Description of the measure

This measure involves the use of access "time windows" aimed at making freight flows more efficient and reducing the impact on city centre traffic movements. In some cases, access may be restricted to certain types of vehicle, as an incentive to encourage clean, light and environmental friendly vehicles

(Note: In the reference site, Measures 11, 12 and 13 were implemented together, as part of a new system of incentives and access regulations developed in collaboration with the local freight network and stakeholders responsible for the logistics platform.)

1.2 Type of measure

- ☐ "**Push**" measure (disincentive)
- ☒ "**Pull**" measure (incentive)
- ☐ Combination of "**push-and-pull**" measures (disincentive and incentive)

Section 2: Category of the measure/field of application

☒ **Administrative**

- ☐ Access restrictions
- ☒ Access incentives
- ☐ Advance booking (un)loading areas
- ☐ Low Emission/Environmental Zone

☐ **Financial**

- ☐ Mobility credits schemes
- ☐ Congestion charging
- ☐ Vehicle financing models

☐ **Organizational**

- ☐ Freight traffic routing information

- ☐ Alternative delivery systems

☐ **Technical**

- ☐ Intelligent freight traffic routing
- ☐ IT logistics tools

☐ **Awareness**

- ☐ Promotional and awareness campaigns
- ☐ Eco-driving
- ☐ Freight Operators Recognition Scheme (FORS)

☐ **Governance**

- ☐ Local Freight Development Plan (LFDP)
- ☐ Distribution plan-scheme
- ☐ Freight Quality Partnership (FQP)

☐ **Urban planning**

- ☐ Special urban planning conditions

Section 3: Expected impacts of the measure

3.1 Field of application/relevance

- ☒ Environmental (*air and noise pollution*)
- ☒ Energy (*energy consumption*)
- ☐ Economy (*retailers, manufactures, residents*)
- ☐ Safety and security (*drivers and vulnerable road users*)
- ☐ Transport efficiency (*optimization and costs efficiencies*)
- ☐ Land use and urban planning (*city administrations)*

3.2 Description of expected impacts of the measure (in qualitative terms)

Reduced energy consumption and environmental impacts

Section 4: Decision making process and involved stakeholders

4.1 Policy design of the measure

- ☒ Initiated/supported by public administrations
- ☐ Initiated/supported by private sector
- ☐ Initiated/supported by public-private partnerships

4.2 Involved and key supporting target group(s) stakeholders

- ☐ Administrations
- ☒ Freight carriers
- ☐ Shippers
- ☐ Residents

4.3 Description of concertation and cooperation levels with target group(s) stakeholders

Requires liaison with freight sector.

4.4 Average time needed for the policy design, sharing and operation start-up of the measure

- ☐ Less than 6 months
- ☒ 6 to 36 months
- ☐ More than 36 months

Section 5: Planning, implementation and monitoring of the measure

5.1 Description of drivers for success

Active input and participation from all stakeholders.

5.2 Implementability (possible barriers)

- ☐ Possible political obstacles:
- ☐ Possible concertation and cooperation obstacles:
- ☐ Possible financial obstacles:
- ☐ Possible technical obstacles:
- ☐ Possible timeline obstacles:

5.3 Innovativeness of the measure

This is an innovative measure which has been trialled successfully in Ravenna, Italy

5.4 Transferability

Transferrable to any town/city where it is desirable to encourage the uptake of clean, light and environmental friendly vehicles.

Section 6: Good practices example

6.1 Reference site(s)

- Country : ***Italy***
- City : *Ravenna*
- Population : 159,497
- Area in km^2 : 652.89 km^2 (252.08 sq mi)

6.2 Description of effectiveness of the measure (in qualitative or quantitative terms)

Improvement of the goods delivery service to the city centre is expected to be achieved by this incentive measure.

6.3 Lesson learned

Close involvement of all stakeholders, including Municipality of Ravenna, ITL (Istituto sui Trasporti e la Logistica) and CONSAR (CONSorzio Autotrasportatori Ravenna).

6.4 More information: C-LIEGE UFT Database – Good Practice (GP) **Number 45**

Measure 12: Allocation of additional freight parking spaces

Section 1: Description of the measure

1.1 Description of the measure

This measure involves the allocation of additional freight parking spaces aimed at making freight flows more efficient and reducing the impact on city centre traffic movements. In some cases, access may be restricted to certain types of vehicle, as an incentive to encourage clean, light and environmental friendly vehicles.

(Note: In the reference site, Measures 11, 12 and 13 were implemented together, as part of a new system of incentives and access regulations developed in collaboration with the local freight network and stakeholders responsible for the logistics platform).

1.2 Type of measure

- ☐ "**Push**" measure (disincentive)
- ☒ "**Pull**" measure (incentive)
- ☐ Combination of "**push-and-pull**" measures (disincentive and incentive)

Section 2: Category of the measure/field of application

☒ **Administrative**

- ☐ Access restrictions
- ☒ Access incentives
- ☐ Advance booking (un)loading areas
- ☐ Low Emission/Environmental Zone

☐ **Financial**

- ☐ Mobility credits schemes
- ☐ Congestion charging
- ☐ Vehicle financing models

☐ **Organizational**

- ☐ Freight traffic routing information

- ☐ Alternative delivery systems

☐ **Technical**

- ☐ Intelligent freight traffic routing
- ☐ IT logistics tools

☐ **Awareness**

- ☐ Promotional and awareness campaigns
- ☐ Eco-driving
- ☐ Freight Operators Recognition Scheme (FORS)

☐ **Governance**

- ☐ Local Freight Development Plan (LFDP)
- ☐ Distribution plan-scheme
- ☐ Freight Quality Partnership (FQP)

☐ **Urban planning**

- ☐ Special urban planning conditions

Section 3: Expected impacts of the measure

3.1 Field of application/relevance

- ☒ Environmental (*air and noise pollution*)
- ☒ Energy (*energy consumption*)
- ☐ Economy (*retailers, manufactures, residents*)
- ☐ Safety and security (*drivers and vulnerable road users*)
- ☐ Transport efficiency (*optimization and costs efficiencies*)
- ☐ Land use and urban planning (*city administrations)*

3.2 Description of expected impacts of the measure (in qualitative terms)

Reduced energy consumption and environmental impacts.

Section 4: Decision making process and involved stakeholders

4.1 Policy design of the measure

- ☒ Initiated/supported by public administrations
- ☐ Initiated/supported by private sector
- ☐ Initiated/supported by public-private partnerships

4.2 Involved and key supporting target group(s) stakeholders

- ☒ Administrations
- ☒ Freight carriers
- ☐ Shippers
- ☐ Residents

4.3 Description of concertation and cooperation levels with target group(s) stakeholders

Requires liaison with freight sector.

4.4 Average time needed for the policy design, sharing and operation start-up of the measure

- ☐ Less than 6 months
- ☒ 6 to 36 months
- ☐ More than 36 months

Section 5: Planning, implementation and monitoring of the measure

5.1 Description of drivers for success

Active input and participation from all stakeholders.

5.2 Implementability (possible barriers)

- ☐ Possible political obstacles:
- ☐ Possible concertation and cooperation obstacles: *brief description (max 4 lines)*
- ☐ Possible financial obstacles:
- ☐ Possible technical obstacles:
- ☐ Possible timeline obstacles:

5.3 Innovativeness of the measure

This is an innovative measure which has been trialled successfully in Ravenna, Italy.

5.4 Transferability

Transferrable to any town/city where it is desirable to encourage the uptake of clean, light and environmental friendly vehicles.

Section 6: Good practices example

6.1 Reference site(s)

- Country : ***Italy***
- City : *Ravenna*
- Population : 159,497
- Area in km^2 : 652.89 km^2 (252.08 sq mi)

6.2 Description of effectiveness of the measure (in qualitative or quantitative terms)

Improvement of the goods delivery service to the city centre is expected to be achieved by this incentive measure.

6.3 Lesson learned

Close involvement of all stakeholders, including Municipality of Ravenna, ITL (Istituto sui Trasporti e la Logistica) and CONSAR (CONSorzio Autotrasportatori Ravenna).

6.4 More information: C-LIEGE UFT Database – Good Practice (GP) **Number 45**

Measure 13: Ad-hoc routes for freight distribution

Section 1: Description of the measure

1.1 Description of the measure

This measure involves the introduction of ad-hoc routes for freight distribution aimed at making freight flows more efficient and reducing the impact on city centre traffic movements. In some cases, access may be restricted to certain types of vehicle, as an incentive to encourage clean, light and environmental friendly vehicles.

(Note: In the reference site, Measures 11, 12 and 13 were implemented together, as part of a new system of incentives and access regulations developed in collaboration with the local freight network and stakeholders responsible for the logistics platform).

1.2 Type of measure

☐ "**Push**" measure (disincentive)

☒ "**Pull**" measure (incentive)

☐ Combination of "**push-and-pull**" measures (disincentive and incentive)

Section 2: Category of the measure/field of application

☒ **Administrative**

- ☐ Access restrictions
- ☒ Access incentives
- ☐ Advance booking (un)loading areas
- ☐ Low Emission/Environmental Zone

☒ **Financial**

- ☐ Mobility credits schemes
- ☐ Congestion charging
- ☐ Vehicle financing models

☒ **Organizational**

- ☒ Freight traffic routing information

- ☐ Alternative delivery systems

☐ **Technical**

- ☐ Intelligent freight traffic routing
- ☐ IT logistics tools

☐ **Awareness**

- ☐ Promotional and awareness campaigns
- ☐ Eco-driving
- ☐ Freight Operators Recognition Scheme (FORS)

☐ **Governance**

- ☐ Local Freight Development Plan (LFDP)
- ☐ Distribution plan-scheme
- ☐ Freight Quality Partnership (FQP)

☐ **Urban planning**

- ☐ Special urban planning conditions

Section 3: Expected impacts of the measure

3.1 Field of application/relevance

- ☒ Environmental (*air and noise pollution*)
- ☒ Energy (*energy consumption*)
- ☐ Economy (*retailers, manufactures, residents*)
- ☐ Safety and security (*drivers and vulnerable road users*)
- ☐ Transport efficiency (*optimization and costs efficiencies*)
- ☐ Land use and urban planning (*city administrations)*

3.2 Description of expected impacts of the measure (in qualitative terms)

Reduced energy consumption and environmental impacts.

Section 4: Decision making process and involved stakeholders

4.1 Policy design of the measure

- ☒ Initiated/supported by public administrations
- ☐ Initiated/supported by private sector
- ☐ Initiated/supported by public-private partnerships

4.2 Involved and key supporting target group(s) stakeholders

- ☒ Administrations
- ☒ Freight carriers
- ☐ Shippers
- ☐ Residents

4.3 Description of concertation and cooperation levels with target group(s) stakeholders

Requires liaison with freight sector.

4.4 Average time needed for the policy design, sharing and operation start-up of the measure

- ☐ Less than 6 months
- ☒ 6 to 36 months
- ☐ More than 36 months

Section 5: Planning, implementation and monitoring of the measure

5.1 Description of drivers for success

Active input and participation from all stakeholders.

5.2 Implementability (possible barriers)

- ☐ Possible political obstacles:
- ☐ Possible concertation and cooperation obstacles:
- ☐ Possible financial obstacles:
- ☐ Possible technical obstacles:

☐ Possible timeline obstacles:

5.3 Innovativeness of the measure

This is an innovative measure which has been trialled successfully in Ravenna, Italy.

5.4 Transferability

Transferrable to any town/city where it is desirable to encourage the uptake of clean, light and environmental friendly vehicles.

Section 6: Good practices example

6.1 Reference site(s)

- Country : **Italy**
- City : Ravenna
- Population : 159,497
- Area in km^2 : 652.89 km^2 (252.08 sq mi)

6.2 Description of effectiveness of the measure (in qualitative or quantitative terms)

Improvement of the goods delivery service to the city centre is expected to be achieved by this incentive measure.

6.3 Lesson learned

Close involvement of all stakeholders, including Municipality of Ravenna, ITL (Istituto sui Trasporti e la Logistica) and CONSAR (CONSorzio Autotrasportatori Ravenna).

6.4 More information: C-LIEGE UFT Database – Good Practice (GP) **Number 45**

Measure 14: Time window restrictions

Section 1: Description of the measure

1.1 Description of the measure

This measure involves the use of time window restrictions to confine freight deliveries to certain hours, typically early in the day, in order to address congestion, traffic related air pollution and vehicle conflict in loading areas. This is particularly relevant in pedestrianised areas, where unrestricted access for deliveries can degrade the pedestrian environment. The use of time windows can also provide an incentive to use freight consolidation schemes.

1.2 Type of measure

- ☒ "**Push**" measure (disincentive)
- ☐ "**Pull**" measure (incentive)
- ☐ Combination of "**push-and-pull**" measures (disincentive and incentive)

Section 2: Category of the measure/field of application

☒ **Administrative**

- ☒ Access restrictions
- ☐ Access incentives
- ☐ Advance booking (un)loading areas
- ☐ Low Emission/Environmental Zone

☐ **Financial**

- ☐ Mobility credits schemes
- ☐ Congestion charging
- ☐ Vehicle financing models

☐ **Organizational**

- ☐ Freight traffic routing information
- ☐ Alternative delivery systems

☐ **Technical**

- ☐ Intelligent freight traffic routing
- ☐ IT logistics tools

☐ **Awareness**

- ☐ Promotional and awareness campaigns
- ☐ Eco-driving
- ☐ Freight Operators Recognition Scheme (FORS)

☐ **Governance**

- ☐ Local Freight Development Plan (LFDP)
- ☐ Distribution plan-scheme
- ☐ Freight Quality Partnership (FQP)

☐ **Urban planning**

- ☐ Special urban planning conditions

Section 3: Expected impacts of the measure

3.1 Field of application/relevance

- ☒ Environmental (*air and noise pollution*)
- ☒ Energy (*energy consumption*)
- ☐ Economy (*retailers, manufactures, residents*)
- ☐ Safety and security (*drivers and vulnerable road users*)
- ☐ Transport efficiency (*optimization and costs efficiencies*)
- ☒ Land use and urban planning (*city administrations)*

3.2 Description of expected impacts of the measure (in qualitative terms)

Reduced environmental impact on city centres.

Section 4: Decision making process and involved stakeholders

4.1 Policy design of the measure

☒ Initiated/supported by public administrations

☐ Initiated/supported by private sector

☐ Initiated/supported by public-private partnerships

4.2 Involved and key supporting target group(s) stakeholders

☒ Administrations

☒ Freight carriers

☒ Shippers

☐ Residents

4.3 Description of concertation and cooperation levels with target group(s) stakeholders

Requires liaison with freight sector and shippers.

4.4 Average time needed for the policy design, sharing and operation start-up of the measure

☐ Less than 6 months

☒ 6 to 36 months

☐ More than 36 months

Section 5: Planning, implementation and monitoring of the measure

5.1 Description of drivers for success

Active input and participation from all stakeholders

5.2 Implementability (possible barriers)

☐ Possible political obstacles:

☒ Possible concertation and cooperation obstacles: *May encounter resistance from shippers and freight operators, due to the perceived impact on their business model and anticipated delays in re-stocking outlets*

☐ Possible financial obstacles:

☐ Possible technical obstacles:

☐ Possible timeline obstacles:

5.3 Innovativeness of the measure

Time window restrictions of this kind have been used in a number of cities.

5.4 Transferability

Transferrable to any town/city where it is desirable to restrict deliveries to certain time windows in order to reduce the impact of freight deliveries in city centres

Section 6: Good practices example

6.1 Reference site(s)

- Country : ***UK***
- City : *Bristol*
- Population : 441,300
- Area in km^2 : 110 km^2

6.2 Description of effectiveness of the measure (in qualitative or quantitative terms)

The city centre retailing area, Broadmead, receives 90,000 delivery vehicles per year contributing to congestion, traffic related air pollution and vehicle conflict in loading areas. This measure is intended to efficiently manage the movement of freight vehicles, and integrate these into the developing overall access plan, particularly where these access control and priority techniques will promote and support the use of the city's consolidation scheme.

6.3 Lesson learned

Close involvement of all stakeholders, including Municipality of Ravenna, ITL (Istituto sui Trasporti e la Logistica) and CONSAR (CONSorzio Autotrasportatori Ravenna)

6.4 More information: C-LIEGE UFT Database – Good Practice (GP) **Number 1**

Measure 15: Optimising leasing models for clean freight vehicles

Section 1: Description of the measure

1.1 Description of the measure

Several providers already offer the opportunity to finance CNG vehicles by leasing. However, in some cases it has been found that the offers are not attractive due to risks in relation to residual value as well as to servicing and maintenance. This measure involves the development of leasing models that re-finance the higher investment costs for CNG vehicles by lower operating costs and relevant promotion programmes.

1.2 Type of measure

- ☐ "**Push**" measure (disincentive)
- ☒ "**Pull**" measure (incentive)
- ☐ Combination of "**push-and-pull**" measures (disincentive and incentive)

Section 2: Category of the measure/field of application

☐ **Administrative**

- ☐ Access restrictions
- ☐ Access incentives
- ☐ Advance booking (un)loading areas
- ☐ Low Emission/Environmental Zone

☒ **Financial**

- ☐ Mobility credits schemes
- ☐ Congestion charging
- ☒ Vehicle financing models

☐ **Organizational**

- ☐ Freight traffic routing information
- ☐ Alternative delivery systems

☐ **Technical**

- ☐ Intelligent freight traffic routing
- ☐ IT logistics tools

☐ **Awareness**

- ☐ Promotional and awareness campaigns
- ☐ Eco-driving
- ☐ Freight Operators Recognition Scheme (FORS)

☐ **Governance**

- ☐ Local Freight Development Plan (LFDP)
- ☐ Distribution plan-scheme
- ☐ Freight Quality Partnership (FQP)

☐ **Urban planning**

- ☐ Special urban planning conditions

Section 3: Expected impacts of the measure

3.1 Field of application/relevance

- ☒ Environmental (*air and noise pollution*)
- ☒ Energy (*energy consumption*)
- ☐ Economy (*retailers, manufactures, residents*)
- ☐ Safety and security (*drivers and vulnerable road users*)
- ☐ Transport efficiency (*optimization and costs efficiencies*)
- ☐ Land use and urban planning (*city administrations)*

3.2 Description of expected impacts of the measure (in qualitative terms)

Reduced environmental impact and energy consumption

Section 4: Decision making process and involved stakeholders

4.1 Policy design of the measure

- ☒ Initiated/supported by public administrations
- ☐ Initiated/supported by private sector
- ☐ Initiated/supported by public-private partnerships

4.2 Involved and key supporting target group(s) stakeholders

- ☒ Administrations
- ☒ Freight carriers
- ☐ Shippers
- ☐ Residents

4.3 Description of concertation and cooperation levels with target group(s) stakeholders

Requires liaison with freight sector and energy suppliers.

4.4 Average time needed for the policy design, sharing and operation start-up of the measure

- ☐ Less than 6 months
- ☒ 6 to 36 months
- ☐ More than 36 months

Section 5: Planning, implementation and monitoring of the measure

5.1 Description of drivers for success

Active input and participation from all stakeholders.

5.2 Implementability (possible barriers)

- ☐ Possible political obstacles:
- ☐ Possible concertation and cooperation obstacles:
- ☐ Possible financial obstacles:

☒ Possible technical obstacles: *Requires the necessary infrastructure for large-scale operation of CNG vehicles to be in place*

☐ Possible timeline obstacles:

5.3 Innovativeness of the measure

This is an innovative measure aimed at promoting the greater take-up of “clean” CNG vehicles.

5.4 Transferability

This measure has been successful in Berlin and is, in theory, transferrable elsewhere but may be more applicable to larger towns/cities where the necessary supporting infrastructure is in place

Section 6: Good practices example

6.1 Reference site(s)

- Country : **Germany**
- City : Berlin
- Population : 3,499,879
- Area in km^2 : 891.85 km^2

6.2 Description of effectiveness of the measure (in qualitative or quantitative terms)

The scheme has resulted in the purchase of over 1,000 gas-powered lorries

6.3 Lesson learned

Close involvement of all stakeholders, including the city and regional government of Berlin, Berlin's public gas provider and the Westhafen harbour corporation

6.4 More information: C-LIEGE UFT Database – Good Practice (GP) **Number 47**

Measure 16: Real-time loading space booking

Section 1: Description of the measure

1.1 Description of the measure

When freight vehicles are unable to use designated delivery spaces, because they are already in use or cars are illegally parked there, the drivers must park elsewhere on the public highway. Such stops have negative impacts on traffic flow, environment (by increasing CO2 emissions) and on safety. Giving the driver the ability to book a delivery space before he reaches his delivery point will:

• increase the number of stops made in delivery areas, and decrease the level of double parking;

• reduce the negative impacts of double parking, as listed above;

• reduce driver stress, optimise delivery time operations, and significantly improve drivers' work conditions.

Depending on local preferences, access to the booking system could be restricted to operators who meet certain criteria – eg, truck fleets who implement speed limiters and provide eco-driving support to their drivers, or operators who are members of fleet recognition schemes

1.2 Type of measure

☐ "**Push**" measure (disincentive)

☒ "**Pull**" measure (incentive)

☐ Combination of "**push-and-pull**" measures (disincentive and incentive)

Section 2: Category of the measure/field of application

☒ **Administrative**

☐ Access restrictions

☐ Access incentives

☒ Advance booking (un)loading areas

☐ Low Emission/Environmental Zone

☐ **Financial**

- ☐ Mobility credits schemes
- ☐ Congestion charging
- ☐ Vehicle financing models

☐ **Organizational**

- ☐ Freight traffic routing information
- ☐ Alternative delivery systems

☐ **Technical**

- ☐ Intelligent freight traffic routing
- ☐ IT logistics tools

☐ **Awareness**

- ☐ Promotional and awareness campaigns
- ☐ Eco-driving
- ☐ Freight Operators Recognition Scheme (FORS)

☐ **Governance**

- ☐ Local Freight Development Plan (LFDP)
- ☐ Distribution plan-scheme
- ☐ Freight Quality Partnership (FQP)

☐ **Urban planning**

- ☐ Special urban planning conditions

Section 3: Expected impacts of the measure

3.1 Field of application/relevance

- ☒ Environmental (*air and noise pollution*)
- ☐ Energy (*energy consumption*)
- ☐ Economy (*retailers, manufactures, residents*)
- ☒ Safety and security (*drivers and vulnerable road users*)

☒ Transport efficiency (*optimization and costs efficiencies*)

☐ Land use and urban planning (*city administrations)*

3.2 Description of expected impacts of the measure (in qualitative terms)

Reduced environmental impact, improved traffic flow and safety

Section 4: Decision making process and involved stakeholders

4.1 Policy design of the measure

☒ Initiated/supported by public administrations

☐ Initiated/supported by private sector

☐ Initiated/supported by public-private partnerships

4.2 Involved and key supporting target group(s) stakeholders

☒ Administrations

☒ Freight carriers

☐ Shippers

☐ Residents

4.3 Description of concertation and cooperation levels with target group(s) stakeholders

Requires liaison with freight sector and parking managers

4.4 Average time needed for the policy design, sharing and operation start-up of the measure

☐ Less than 6 months

☒ 6 to 36 months

☐ More than 36 months

Section 5: Planning, implementation and monitoring of the measure

5.1 Description of drivers for success

Active input and participation from all stakeholders

5.2 Implementability (possible barriers)

- ☐ Possible political obstacles:
- ☐ Possible concertation and cooperation obstacles:
- ☐ Possible financial obstacles:
- ☐ Possible technical obstacles:
- ☐ Possible timeline obstacles:

5.3 Innovativeness of the measure

This is a technically innovative scheme that (when piloted in Bilbao) provides dynamic booking and re-scheduling delivery spaces, as part of an administratively innovative incentive scheme to reward truck fleets which implement speed limiters and provide eco-driving support to their drivers. If the vehicle is running late, the operator could re-assign a new delivery space according to the new time schedule, in order to keep the delivery area available for the other users. This measure will optimize the route for each vehicle, reducing the kilometres and number of stops that each vehicle performs.

5.4 Transferability

This measure should be transferrable to any town/city, where delivery vehicles are having difficulty accessing parking spaces

Section 6: Good practices example

6.1 Reference site(s)

- Country : **Spain**
- City : Bilbao
- Population : 353,187
- Area in km2 : 40.65 km^2

6.2 Description of effectiveness of the measure (in qualitative or quantitative terms)

The project aims to demonstrate that a 25% reduction of fuel consumption in urban areas is feasible, as part of an integrated approach combining innovative services for traffic and fleet management, vehicles and drivers.

6.3 Lesson learned

Close involvement of all relevant stakeholders

6.4 More information: C-LIEGE UFT Database – Good Practice (GP) **Number 43**

Measure 17: Priority for lorries at selected junctions

Section 1: Description of the measure

1.1 Description of the measure

This measure will optimise the traffic control system to reduce heavy vehicle fuel consumption. The fuel consumption of a motor vehicle is determined by its speed and acceleration. In urban areas, speed is of lesser importance while acceleration, due to many stop-go cycles or slowing at intersections and roundabouts, is the main factor responsible for high fuel consumption. Optimising traffic control for maximum fuel efficiency would aim to minimise congestion and vehicle stops at signal-controlled intersections and roundabouts. The general idea is that cities will implement priority for trucks at certain junctions (on certain roads and/or certain times of day) and provide this priority as incentive to those truck fleets which comply with certain criteria, such as fitting of speed limiters, provision of eco-driving support to drivers, or membership of fleet recognition schemes.

1.2 Type of measure

- ☐ "**Push**" measure (disincentive)
- ☒ "**Pull**" measure (incentive)
- ☐ Combination of "**push-and-pull**" measures (disincentive and incentive)

Section 2: Category of the measure/field of application

- ☐ **Administrative**
  - ☐ Access restrictions
  - ☐ Access incentives
  - ☐ Advance booking (un)loading areas
  - ☐ Low Emission/Environmental Zone
- ☐ **Financial**
  - ☐ Mobility credits schemes
  - ☐ Congestion charging
  - ☐ Vehicle financing models

☐ **Organizational**

- ☐ Freight traffic routing information
- ☐ Alternative delivery systems

☒ **Technical**

- ☒ Intelligent freight traffic routing
- ☐ IT logistics tools

☐ **Awareness**

- ☐ Promotional and awareness campaigns
- ☐ Eco-driving
- ☐ Freight Operators Recognition Scheme (FORS)

☐ **Governance**

- ☐ Local Freight Development Plan (LFDP)
- ☐ Distribution plan-scheme
- ☐ Freight Quality Partnership (FQP)

☐ **Urban planning**

- ☐ Special urban planning conditions

Section 3: Expected impacts of the measure

3.1 Field of application/relevance

- ☒ Environmental (*air and noise pollution*)
- ☒ Energy (*energy consumption*)
- ☐ Economy (*retailers, manufactures, residents*)
- ☐ Safety and security (*drivers and vulnerable road users*)
- ☐ Transport efficiency (*optimization and costs efficiencies*)
- ☐ Land use and urban planning (*city administrations)*

3.2 Description of expected impacts of the measure (in qualitative terms)

Reduced environmental impact and energy consumption, as well as improved traffic flow.

Section 4: Decision making process and involved stakeholders

4.1 Policy design of the measure

- ☒ Initiated/supported by public administrations
- ☐ Initiated/supported by private sector
- ☐ Initiated/supported by public-private partnerships

4.2 Involved and key supporting target group(s) stakeholders

- ☒ Administrations
- ☒ Freight carriers
- ☐ Shippers
- ☐ Residents

4.3 Description of concertation and cooperation levels with target group(s) stakeholders

Requires liaison with freight sector and traffic managers.

4.4 Average time needed for the policy design, sharing and operation start-up of the measure

- ☐ Less than 6 months
- ☒ 6 to 36 months
- ☐ More than 36 months

Section 5: Planning, implementation and monitoring of the measure

5.1 Description of drivers for success

Active input and participation from all stakeholders, plus technical capacity to introduce junction priority measures.

5.2 Implementability (possible barriers)

☐ Possible political obstacles:

☐ Possible concertation and cooperation obstacles:

☒ Possible financial obstacles: *May be significant costs involved to optimise traffic control systems so these priority measures can be introduced*

☒ Possible technical obstacles: *Requires technical capacity to introduce traffic control measures of this kind*

☐ Possible timeline obstacles:

5.3 Innovativeness of the measure

This measure intends to locally improve coordination and avoid heavy goods vehicle stops through selective detection (by size or by vehicle/fleet identity) and priority at individual signalised intersections. Whilst Urban Traffic Management and Control systems are in place in a number of municipalities, we are not aware of any which specifically give freight vehicles priority at junctions.

5.4 Transferability

This measure is transferrable to any town or city, where the traffic control systems are capable of being adjusted to give priority to freight vehicles.

Section 6: Good practices example

6.1 Reference site(s)

▪ Country	: ***Netherlands,***	***Poland and***	***France (FREILOT)***
▪ Cities	: *Helmond,*	*Krakow and*	*Lyon*
▪ Population	: 88,598,	756,267,	1,422,331
▪ Area in km^2	: 54.56 km^2,	327 km^2,	47.95 km^2

6.2 Description of effectiveness of the measure (in qualitative or quantitative terms)

The project aims to demonstrate that a 25% reduction of fuel consumption in urban areas is feasible, implementing this measure as a part of an integrated approach combining innovative services for traffic and fleet management, vehicles and drivers.

6.3 Lesson learned

Close involvement of all relevant stakeholders.

6.4 More information: C-LIEGE UFT Database – Good Practice (GP) **Number 43**

Measure 18: ICT support for eco driving

Section 1: Description of the measure

1.1 Description of the measure

Acceleration, braking and gear-changing behaviour affects fuel consumption of freight vehicles. This measure provides direct technological support for an economic and environmentally friendly driving style.

1.2 Type of measure

- ☐ "**Push**" measure (disincentive)
- ☒ "**Pull**" measure (incentive)
- ☐ Combination of "**push-and-pull**" measures (disincentive and incentive)

Section 2: Category of the measure/field of application

☐ **Administrative**

- ☐ Access restrictions
- ☐ Access incentives
- ☐ Advance booking (un)loading areas
- ☐ Low Emission/Environmental Zone

☐ **Financial**

- ☐ Mobility credits schemes
- ☐ Congestion charging
- ☐ Vehicle financing models

☐ **Organizational**

- ☐ Freight traffic routing information
- ☐ Alternative delivery systems

☒ **Technical**

- ☐ Intelligent freight traffic routing
- ☒ IT logistics tools

☒ **Awareness**

- ☐ Promotional and awareness campaigns
- ☒ Eco-driving
- ☐ Freight Operators Recognition Scheme (FORS)

☐ **Governance**

- ☐ Local Freight Development Plan (LFDP)
- ☐ Distribution plan-scheme
- ☐ Freight Quality Partnership (FQP)

☐ **Urban planning**

- ☐ Special urban planning conditions

Section 3: Expected impacts of the measure

3.1 Field of application/relevance

- ☒ Environmental (*air and noise pollution*)
- ☒ Energy (*energy consumption*)
- ☒ Economy (*retailers, manufactures, residents*)
- ☐ Safety and security (*drivers and vulnerable road users*)
- ☒ Transport efficiency (*optimization and costs efficiencies*)
- ☐ Land use and urban planning (*city administrations)*

3.2 Description of expected impacts of the measure (in qualitative terms)

Reduction in fuel consumption in urban areas.

Section 4: Decision making process and involved stakeholders

4.1 Policy design of the measure

- ☒ Initiated/supported by public administrations
- ☐ Initiated/supported by private sector

☐ Initiated/supported by public-private partnerships

4.2 Involved and key supporting target group(s) stakeholders

☒ Administrations

☒ Freight carriers

☐ Shippers

☐ Residents

4.3 Description of concertation and cooperation levels with target group(s) stakeholders

Local freight operators.

4.4 Average time needed for the policy design, sharing and operation start-up of the measure

☐ Less than 6 months

☒ 6 to 36 months

☐ More than 36 months

Section 5: Planning, implementation and monitoring of the measure

5.1 Description of drivers for success

1) Active input and participation from all stakeholders 2) Adequate budget to carry out necessary research and design of ICT applications

5.2 Implementability (possible barriers)

☐ Possible political obstacles:

☐ Possible concertation and cooperation obstacles:

☐ Possible financial obstacles:

☒ Possible technical obstacles: *This project is not specifically focused on UFT so some of the content will not be relevant to the C-LIEGE project*

☒ Possible timeline obstacles: *This is, by its nature, a long-term project which is unlikely to deliver early improvements to the efficient operation of UFT*

5.3 Innovativeness of the measure

While driving, continuous information on accelerator position, instant consumption, average consumption and a general performance rating on eco driving level is provided to the driver. If one of the parameters has very low performance the driver receives a message requesting him to improve his behaviour in terms of fuel consumption.

5.4 Transferability

Applicable to all municipalities.

Section 6: Good practices example

6.1 Reference site(s)

▪ Country	: ***Spain***	***Netherlands,***	***Poland and***	***France***
▪ Cities	: *Bilbao,*	*Helmond,*	*Krakow and*	*Lyon*
▪ Population	: *353,187,*	88,598,	756,267,	1,422,331
▪ Area in km^2	: 40.65 km^2,	54.56 km^2,	327 km^2,	47.95 km^2

6.2 Description of effectiveness of the measure (in qualitative or quantitative terms)

<u>Environmental</u> The project aims to demonstrate that a 25% reduction of fuel consumption in urban areas is feasible implementing this measure as a part of an integrated approach combining innovative services for traffic and fleet management, vehicles and drivers.

6.3 Lesson learned

6.4 More information: C-LIEGE UFT Database – Good Practice (GP) **Number 43**

Measure 19: Van sharing (used in conjunction with Measures 23 and 24)

Section 1: Description of the measure

1.1 Description of the measure

The rationalisation of vehicle use by traders through the introduction of a van-sharing service. This is intended to address high levels of congestion and pollution generated by freight distribution (especially in historic city centres with limited road space) by optimising collection and delivery services.

1.2 Type of measure

- ☐ "**Push**" measure (disincentive)
- ☒ "**Pull**" measure (incentive)
- ☐ Combination of "**push-and-pull**" measures (disincentive and incentive)

Section 2: Category of the measure/field of application

☐ **Administrative**

- ☐ Access restrictions
- ☐ Access incentives
- ☐ Advance booking (un)loading areas
- ☐ Low Emission/Environmental Zone

☐ **Financial**

- ☐ Mobility credits schemes
- ☐ Congestion charging
- ☐ Vehicle financing models

☒ **Organizational**

- ☐ Freight traffic routing information
- ☒ Alternative delivery systems

☐ **Technical**

- ☐ Intelligent freight traffic routing
- ☐ IT logistics tools

☒ **Awareness**

- ☒ Promotional and awareness campaigns
- ☐ Eco-driving
- ☐ Freight Operators Recognition Scheme (FORS)

☐ **Governance**

- ☐ Local Freight Development Plan (LFDP)
- ☐ Distribution plan-scheme
- ☐ Freight Quality Partnership (FQP)

☐ **Urban planning**

- ☐ Special urban planning conditions

Section 3: Expected impacts of the measure

3.1 Field of application/relevance

- ☒ Environmental (*air and noise pollution*)
- ☒ Energy (*energy consumption*)
- ☒ Economy (*retailers, manufactures, residents*)
- ☐ Safety and security (*drivers and vulnerable road users*)
- ☒ Transport efficiency (*optimization and costs efficiencies*)
- ☐ Land use and urban planning (*city administrations)*

3.2 Description of expected impacts of the measure (in qualitative terms)

Reduced costs, lower energy consumption and less congestion resulting from the rationalisation of vehicle use by traders.

Section 4: Decision making process and involved stakeholders

4.1 Policy design of the measure

- ☒ Initiated/supported by public administrations
- ☐ Initiated/supported by private sector
- ☐ Initiated/supported by public-private partnerships

4.2 Involved and key supporting target group(s) stakeholders

- ☐ Administrations
- ☐ Freight carriers
- ☒ Shippers
- ☐ Residents

4.3 Description of concertation and cooperation levels with target group(s) stakeholders

Local shippers.

4.4 Average time needed for the policy design, sharing and operation start-up of the measure

- ☐ Less than 6 months
- ☒ 6 to 36 months
- ☐ More than 36 months

Section 5: Planning, implementation and monitoring of the measure

5.1 Description of drivers for success

Active input and participation from all stakeholders.

5.2 Implementability (possible barriers)

- ☐ Possible political obstacles
- ☐ Possible concertation and cooperation obstacles:
- ☐ Possible financial obstacles:

☐ Possible technical obstacles:

☐ Possible timeline obstacles:

5.3 Innovativeness of the measure

The measure appears similar to the widely-adopted concept of freight consolidation.

5.4 Transferability

Applicable to all municipalities.

Section 6: Good practices example

6.1 Reference site(s)

- Country : **Italy**
- City : Genoa
- Population : 608,154
- Area in km^2 : 243.60 km^2

6.2 Description of effectiveness of the measure (in qualitative or quantitative terms)

Van-sharing was part of a toolbox of coordinated initiatives which included: -the establishment of a mobility credits system, limiting the access of freight vehicles to the target area on the basis of payment of a predetermined amount of mobility credits previously distributed by the public administration to all economic activities in the area (see Measure 23); -the creation of one or more small proximity warehouses for the temporary storage of small quantities of goods in order to discourage traders to use their own vehicles to transport goods; -the rationalisation of vehicle use by traders through the introduction of a van-sharing service; and -the elaboration of coherent regulations for commercial vehicle access to target areas. Data on existing commercial activities in the historical city centre were collected and analysed. The scheme was then developed with the participation of local stakeholders (shopkeepers, artisans, transport associations). Each economic operator was given an initial credit budget in accordance with his

requirements. The credits were spent on freight, either using vehicles owned by the business or those of professional carriers and couriers. The access control equipment records every entry to the zone and permits the implementation of a mixed pricing / enforcement scheme for different users.

Frequent-user goods vehicles were allowed to enter at specified times and were subject to the mobility credits scheme. This means they needed to collect credits from the businesses as, without sufficient credits, they would be subjected to fines.

Occasional-user goods vehicles were allowed to enter at specified times but were subjected to a road charge scheme (about € 7 for a daily permit to enter the area).

Environmental Benefits

The van-sharing service proved successful, with fewer commercial vehicles entering the target area and less road congestion.

6.3 Lesson learned

6.4 More information: C-LIEGE UFT Database – Good Practice (GP) **Number 48**

Measure 20: Collectpoints[1]

Section 1: Description of the measure

1.1 Description of the measure

A large number of parcel deliveries fail. With the growth in online shopping, this results in wasted journeys and unnecessary fuel consumption. Collectpoints offer an alternative to home delivery, primarily for Internet shoppers. Collectpoints can be located in convenience stores, the main benefit of the service being the reduction in failed deliveries and the subsequent return of goods by couriers and postal services.

1.2 Type of measure

- ☐ "**Push**" measure (disincentive)
- ☒ "**Pull**" measure (incentive)
- ☐ Combination of "**push-and-pull**" measures (disincentive and incentive)

Section 2: Category of the measure/field of application

The urban mobility plan could include some or all of the following categories

☐ **Administrative**

- ☐ Access restrictions
- ☐ Access incentives
- ☐ Advance booking (un)loading areas
- ☐ Low Emission/Environmental Zone

☐ **Financial**

- ☐ Mobility credits schemes
- ☐ Congestion charging
- ☐ Vehicle financing models

☒ **Organizational**

- ☐ Freight traffic routing information

[1] *Note – Very similar to Measure 21*

☒ Alternative delivery systems

☐ **Technical**

☐ Intelligent freight traffic routing

☐ IT logistics tools

☐ **Awareness**

☒ Promotional and awareness campaigns

☐ Eco-driving

☐ Freight Operators Recognition Scheme (FORS)

☐ **Governance**

☐ Local Freight Development Plan (LFDP)

☐ Distribution plan-scheme

☐ Freight Quality Partnership (FQP)

☐ **Urban planning**

☐ Special urban planning conditions

Section 3: Expected impacts of the measure

3.1 Field of application/relevance

☒ Environmental (*air and noise pollution*)

☒ Energy (*energy consumption*)

☒ Economy (*retailers, manufactures, residents*)

☐ Safety and security (*drivers and vulnerable road users*)

☒ Transport efficiency (*optimization and costs efficiencies*)

☐ Land use and urban planning (*city administrations)*

3.2 Description of expected impacts of the measure (in qualitative terms)

The aim of this measure is to reduce the number of failed deliveries and the subsequent return of goods by couriers and postal services, cutting down on unnecessary vehicle mileage with associated energy use and congestion impacts.

Section 4: Decision making process and involved stakeholders

4.1 Policy design of the measure

- ☒ Initiated/supported by public administrations
- ☐ Initiated/supported by private sector
- ☐ Initiated/supported by public-private partnerships

4.2 Involved and key supporting target group(s) stakeholders

- ☐ Administrations
- ☐ Freight carriers
- ☒ Shippers
- ☒ Residents

4.3 Description of concertation and cooperation levels with target group(s) stakeholders

Needs the support of local residents, courier/delivery companies and the outlets where Collectpoints are located.

4.4 Average time needed for the policy design, sharing and operation start-up of the measure

- ☐ Less than 6 months
- ☒ 6 to 36 months
- ☐ More than 36 months

Section 5: Planning, implementation and monitoring of the measure

5.1 Description of drivers for success

1) Support and participation from the general public, delivery companies and online retailers 2) Adequate budget to install receiving points

5.2 Implementability (possible barriers)

- ☐ Possible political obstacles:

☐ Possible concertation and cooperation obstacles: *Needs buy-in from a significant number of local residents to make the scheme viable. Also, Internet retailers need to be willing to deliver goods to a location which does not match the address of the purchaser*

☒ Possible financial obstacles: *When piloted in Winchester, the scheme was found not viable commercially*

☐ Possible technical obstacles:

☐ Possible timeline obstacles:

5.3 Innovativeness of the measure

This is an innovative measure although the trial in Winchester was not very successful (see below).

5.4 Transferability

Applicable to all municipalities.

Section 6: Good practices example

6.1 Reference site(s)

- Country : **UK**
- City : Winchester
- Population : 114,300
- Area in km^2 : 660.97 km^2

6.2 Description of effectiveness of the measure (in qualitative or quantitative terms)

The initial Collectpoint trial was marred by technical difficulties and few people used the service. Lack of data made it difficult to assess whether the scheme would have been commercially viable, although the trial indicated that it would not.

6.3 Lesson learned

For such a scheme to be successful, Internet retailers would need to incorporate it into their system as an alternative delivery option.

6.4 More information: C-LIEGE UFT Database – Good Practice (GP) **Number 50**

Measure 21: Pack Stations[2]

Section 1: Description of the measure

1.1 Description of the measure

Pack stations is an innovative solution beneficial to both customers and for online stores with the aim to provide a convenient delivery alternative for internet shoppers and avoid failed home deliveries by the conventional delivery practices.

1.2 Type of measure

- ☐ "**Push**" measure (disincentive)
- ☒ "**Pull**" measure (incentive)
- ☐ Combination of "**push-and-pull**" measures (disincentive and incentive)

Section 2: Category of the measure/field of application
The urban mobility plan could include some or all of the following categories

- ☐ **Administrative**
  - ☐ Access restrictions
  - ☐ Access incentives
  - ☐ Advance booking (un)loading areas
  - ☐ Low Emission/Environmental Zone
- ☐ **Financial**
  - ☐ Mobility credits schemes
  - ☐ Congestion charging
  - ☐ Vehicle financing models
- ☒ **Organizational**
  - ☐ Freight traffic routing information
  - ☒ Alternative delivery systems

[2] [2] *Note – Very similar to Measure 20*

☐ **Technical**

- ☐ Intelligent freight traffic routing
- ☐ IT logistics tools

☒ **Awareness**

- ☒ Promotional and awareness campaigns
- ☐ Eco-driving
- ☐ Freight Operators Recognition Scheme (FORS)

☐ **Governance**

- ☐ Local Freight Development Plan (LFDP)
- ☐ Distribution plan-scheme
- ☐ Freight Quality Partnership (FQP)

☐ **Urban planning**

- ☐ Special urban planning conditions

Section 3: Expected impacts of the measure

3.1 Field of application/relevance

- ☒ Environmental (*air and noise pollution*)
- ☒ Energy (*energy consumption*)
- ☒ Economy (*retailers, manufactures, residents*)
- ☒ Safety and security (*drivers and vulnerable road users*)
- ☒ Transport efficiency (*optimization and costs efficiencies*)
- ☐ Land use and urban planning (*city administrations)*

3.2 Description of expected impacts of the measure (in qualitative terms)

The aim of this measure is to reduce the number of failed deliveries and the subsequent return of goods by couriers and postal services, cutting down on unnecessary vehicle mileage with associated energy use and congestion impacts.

Section 4: Decision making process and involved stakeholders

4.1 Policy design of the measure

- ☐ Initiated/supported by public administrations
- ☒ Initiated/supported by private sector
- ☐ Initiated/supported by public-private partnerships

4.2 Involved and key supporting target group(s) stakeholders

- ☐ Administrations
- ☐ Freight carriers
- ☒ Shippers
- ☒ Residents

4.3 Description of concertation and cooperation levels with target group(s) stakeholders

Needs the support of local residents, courier/delivery companies and the outlets where pack stations are located.

4.4 Average time needed for the policy design, sharing and operation start-up of the measure

- ☐ Less than 6 months
- ☒ 6 to 36 months
- ☐ More than 36 months

Section 5: Planning, implementation and monitoring of the measure

5.1 Description of drivers for success

1) Support and participation from the general public, delivery companies and online retailers 2) Adequate budget to install receiving points

5.2 Implementability (possible barriers)

- ☐ Possible political obstacles:

☒ Possible concertation and cooperation obstacles: *Needs buy-in from a significant number of local residents to make the scheme viable. Also, Internet retailers need to be willing to deliver goods to a location which does not match the address of the purchaser*

☐ Possible financial obstacles:

☒ Possible technical obstacles:

☒ Possible timeline obstacles:

5.3 Innovativeness of the measure

Innovative measure

5.4 Transferability

Applicable to all municipalities.

Section 6: Good practices example

6.1 Reference site(s)

- Country : **Poland**
- City : Szczecin
- Population : 406,427
- Area in km^2 : 301 km^2

6.2 Description of effectiveness of the measure (in qualitative or quantitative terms)

Packstations is a system of post office boxes, used to receive packages 24 hours a day, 7 days a week. After ordering a package for the Packstation, internet shoppers receive a short message containing a code for collection. Within 2 business days, the parcel will be delivered to the packstation. Receiving packages is possible 24/7. If a package is not collected within 3 days, it will be transported to the nearest branch of InPost. No details of effectiveness provided.

6.3 Lesson learned

No details provide

6.4 More information: C-LIEGE UFT Database – Good Practice (GP) **Number 51**

Measure 22: Freight Exchange

Section 1: Description of the measure

1.1 Description of the measure

An online system designed to reduce back loading, by matching up freight vehicles due to make return journeys to a destination empty, with goods to be carried to that destination

1.2 Type of measure

- ☐ "**Push**" measure (disincentive)
- ☒ "**Pull**" measure (incentive)
- ☐ Combination of "**push-and-pull**" measures (disincentive and incentive)

Section 2: Category of the measure/field of application
The urban mobility plan could include some or all of the following categories

☐ **Administrative**

- ☐ Access restrictions
- ☐ Access incentives
- ☐ Advance booking (un)loading areas
- ☐ Low Emission/Environmental Zone

☐ **Financial**

- ☐ Mobility credits schemes
- ☐ Congestion charging
- ☐ Vehicle financing models

☒ **Organizational**

- ☐ Freight traffic routing information
- ☒ Alternative delivery systems

☒ **Technical**

- ☐ Intelligent freight traffic routing
- ☒ IT logistics tools

☐ **Awareness**

- ☐ Promotional and awareness campaigns
- ☐ Eco-driving
- ☐ Freight Operators Recognition Scheme (FORS)

☐ **Governance**

- ☐ Local Freight Development Plan (LFDP)
- ☐ Distribution plan-scheme
- ☐ Freight Quality Partnership (FQP)

☐ **Urban planning**

- ☐ Special urban planning conditions

Section 3: Expected impacts of the measure

3.1 Field of application/relevance

- ☒ Environmental (*air and noise pollution*)
- ☒ Energy (*energy consumption*)
- ☒ Economy (*retailers, manufactures, residents*)
- ☒ Safety and security (*drivers and vulnerable road users*)
- ☒ Transport efficiency (*optimization and costs efficiencies*)
- ☐ Land use and urban planning (*city administrations)*

3.2 Description of expected impacts of the measure (in qualitative terms)

It was perceived that the operational benefits to hauliers involved with Online Freight Exchanges would include:

- Potential to increase load fill on vehicles;

- Enhanced networking in looking for more business;
- Increased opportunities for backloading;
- Reducing empty running; and
- Helping to establish more cost effective fleet management.

Section 4: Decision making process and involved stakeholders

4.1 Policy design of the measure

☒ Initiated/supported by public administrations

☐ Initiated/supported by private sector

☒ Initiated/supported by public-private partnerships

4.2 Involved and key supporting target group(s) stakeholders

☐ Administrations

☒ Freight carriers

☐ Shippers

☐ Residents

4.3 Description of concertation and cooperation levels with target group(s) stakeholders

By its nature, this measure requires co-operation from freight operators. At the reference site, the Tyne and Wear Freight Partnership arranged for six operators to trial Freight Exchange over two six-month periods, these being: George Allinson Transport, Tyneside Express Transport, Fergusons Transport, GAP Haulage, Davison European and J R Adams Newcastle Ltd.

4.4 Average time needed for the policy design, sharing and operation start-up of the measure

☐ Less than 6 months

☒ 6 to 36 months

☐ More than 36 months

Section 5: Planning, implementation and monitoring of the measure

5.1 Description of drivers for success

1) Active buy-in from the freight sector

2) Sufficient volume of traffic to justify the cost of setting up the scheme

5.2 Implementability (possible barriers)

☐ Possible political obstacles:

☒ Possible concertation and cooperation obstacles: *Requires co-operation between hauliers, which may not be forthcoming in a highly competitive operating environment. Hauliers may be unwilling to trust loads to a rival operator*

☒ Possible financial obstacles: *Need a secure mechanism for collecting and allocating payments between operators*

☒ Possible technical obstacles:

☒ Possible timeline obstacles:

5.3 Innovativeness of the measure

This is an innovative measure

5.4 Transferability

Transferrable to any municipality, where there is a sufficient volume of traffic to justify the scheme

Section 6: Good practices example

6.1 Reference site(s)

- Country :***UK***
- City : *Newcastle upon Tyne*
- Population : 292,200
- Area in km^2 : 113 km^2 (44 sq mi)

6.2 Description of effectiveness of the measure (in qualitative or quantitative terms)

The Tyne and Wear Freight Partnership approached a number of hauliers to determine the impact that utilising a Freight Exchange could have on the effectiveness of their operations in the North East.

These operators were chosen to provide a mix of company types and size in order to ensure the evaluation could assess the differing impacts that Freight Exchanges can have on various businesses. However a key requirement for the trial was the ability for the companies to be able to carry a range of goods and products to maximise use of the system i.e a general haulage company.

Prior to undertaking the trial, operators were asked a number of questions to allow profiling of their existing operations and also to allow baselines to be set from which improvements could be measured.

Economic

Due to the low usage of the system, any economic benefits would be minimal.

GAP Haulage was the only company to really record any monetary benefits, although it was noted that profit margins are very slim as rates are extremely low due to the bidding system in place on the Exchange.

Environmental

Due to the low usage of the system, any environmental benefits would be minimal.

Social Benefits

Due to the low usage of the system, any social benefits would be minimal.

6.3 Lesson learned

Operators agreed that, in principle, Freight Exchanges could become a valuable part of their daily operating environment. It is simply a matter of finding the most suitable exchange for their operations.

6.4 More information: C-LIEGE UFT Database – Good Practice (GP) **Number 49**

Measure 23: Mobility credits (used in conjunction with Measures 19 and 24)

Section 1: Description of the measure

1.1 Description of the measure

This measure involves introduction of a pricing scheme, based on the mobility credits model and electronic access controls, in order to reduce high levels of congestion and pollution in busy city centres (especially historic centres with limited access and road space).

1.2 Type of measure

- ☒ "**Push**" measure (disincentive)
- ☐ "**Pull**" measure (incentive)
- ☐ Combination of "**push-and-pull**" measures (disincentive and incentive)

Section 2: Category of the measure/field of application
The urban mobility plan could include some or all of the following categories

☐ **Administrative**

- ☐ Access restrictions
- ☐ Access incentives
- ☐ Advance booking (un)loading areas
- ☐ Low Emission/Environmental Zone

☒ **Financial**

- ☒ Mobility credits schemes
- ☒ Congestion charging
- ☐ Vehicle financing models

☐ **Organizational**

- ☐ Freight traffic routing information
- ☐ Alternative delivery systems

☐ **Technical**

- ☐ Intelligent freight traffic routing
- ☐ IT logistics tools

☐ **Awareness**

- ☐ Promotional and awareness campaigns
- ☐ Eco-driving
- ☐ Freight Operators Recognition Scheme (FORS)

☐ **Governance**

- ☐ Local Freight Development Plan (LFDP)
- ☐ Distribution plan-scheme
- ☐ Freight Quality Partnership (FQP)

☐ **Urban planning**

- ☐ Special urban planning conditions

Section 3: Expected impacts of the measure

3.1 Field of application/relevance

- ☒ Environmental (*air and noise pollution*)
- ☒ Energy (*energy consumption*)
- ☒ Economy (*retailers, manufactures, residents*)
- ☒ Safety and security (*drivers and vulnerable road users*)
- ☒ Transport efficiency (*optimization and costs efficiencies*)
- ☒ Land use and urban planning (*city administrations)*

3.2 Description of expected impacts of the measure (in qualitative terms)

Reduction of congestion and pollution in city centres.

Section 4: Decision making process and involved stakeholders

4.1 Policy design of the measure

☐ Initiated/supported by public administrations

☐ Initiated/supported by private sector

☒ Initiated/supported by public-private partnerships

4.2 Involved and key supporting target group(s) stakeholders

☒ Administrations

☒ Freight carriers

☒ Shippers

☒ Residents

4.3 Description of concertation and cooperation levels with target group(s) stakeholders

For the reference site:

City authorities: Municipality of Genoa

Public Transport Operators: Azienda Mobilitáe Trasporti S.p.A. (AMT) and Azienda Mobilitáe

Infrastrutture s.p.a (AMI) of Genoa

System and software providers: Softeco Sismat SpA

Private research and consultancy companies: D´Appolonia s.p.a (Genoa)

Public research and government agencies: Agenzia Regionale per l' Energia della Liguria Spa

(Regional Energy Agency), Agenzia Regionale per la Protezione dell' Ambiente Ligure

(Environmental Protection Agency of the Regione Liguria)

Universities: University of Genoa – Department of Economics and Quantitative Methods

Non-profit organisations: Istituto Internazionale Delle Comunicazioni (Genoa)

4.4 Average time needed for the policy design, sharing and operation start-up of the measure

☐ Less than 6 months

☒ 6 to 36 months

☐ More than 36 months

Section 5: Planning, implementation and monitoring of the measure

5.1 Description of drivers for success

1) Active input and participation from all stakeholders, especially operators and municipal authorities

2) Adequate budget to introduce the necessary technology

5.2 Implementability (possible barriers)

☐ Possible political obstacles:

☒ Possible concertation and cooperation obstacles: *May be resistance from operators to the increased costs*

☒ Possible financial obstacles: *Likely to be expensive to introduce, due to the technical requirements*

☒ Possible technical obstacles:

☒ Possible timeline obstacles:

5.3 Innovativeness of the measure

This is a innovative measure, in which an initial budget of credits is given to every economic operator, in accordance with their needs, to be spent on freight distribution using vehicles either owned by the operator or by professional hauliers and couriers. Once the starting budget has been fully used, the economic operators may buy additional credits from the municipality.

Access control equipment such as automatic number plate recognition technology, records each vehicle entering the controlled zone, allowing the implementation of a mixed pricing/enforcement scheme, depending on the users. Residents are entitled to enter after paying a yearly subscription fee; frequent goods vehicles are permitted to enter at specified times, depending on the accumulation of sufficient mobility credits or on payment of access charges; occasional goods vehicles will be allowed to enter at specified times subject to a road charge scheme; and other users are not permitted to enter and are fined for doing so.

5.4 Transferability

Applicable to all municipalities but most applicable to historic centres, where access and road space is limited.

Section 6: Good practices example

6.1 Reference site(s)

- Country : **Italy**
- City : Genoa
- Population : 608,154
- Area in km^2 : 243.60 km^2

6.2 Description of effectiveness of the measure (in qualitative or quantitative terms)

This was part of a toolbox of coordinated initiatives which included:

-the establishment of a mobility credits system, limiting the access of freight vehicles to the target area on the basis of payment of a predetermined amount of mobility credits previously distributed by the public administration to all economic activities in the area (see Measure 23);

-the creation of one or more small proximity warehouses for the temporary storage of small quantities of goods in order to discourage traders to use their own vehicles to transport goods;

-the rationalisation of vehicle use by traders through the introduction of a van-sharing service; and

-the elaboration of coherent regulations for commercial vehicle access to target areas.

Data on existing commercial activities in the historical city centre were collected and analysed. The scheme was then developed with the participation of local stakeholders (shopkeepers, artisans, transport associations). Each economic operator was given an initial credit budget in accordance with his requirements. The credits were spent on freight, either using vehicles owned by the business or those of professional carriers and couriers. The access control equipment records every entry to the zone and permits the implementation of a mixed pricing / enforcement scheme for different users. Frequent-user goods vehicles were allowed to enter at specified times and were subject to the mobility credits scheme. This means they needed to collect credits from the businesses as, without sufficient credits, they would be subjected to fines. Occasional-user goods vehicles were allowed to enter at specified times but were subjected to a road charge scheme (about € 7 for a daily permit to enter the area).

Results

The access control system resulted in a reduction in the number of vehicles accessing the historical centre limited traffic zone.

6.3 Lesson learned

6.4 More information: C-LIEGE UFT Database – Good Practice (GP) **Number 48**

Measure 24: Electronic access control (used in conjunction with Measures 19 and 23)

Section 1: Description of the measure

1.1 Description of the measure

This measure involves introduction of a pricing scheme, based on the mobility credits model and electronic access controls, in order to reduce high levels of congestion and pollution in busy city centres (especially historic centres with limited access and road space).

1.2 Type of measure

- ☒ "**Push**" measure (disincentive)
- ☐ "**Pull**" measure (incentive)
- ☐ Combination of "**push-and-pull**" measures (disincentive and incentive)

Section 2: Category of the measure/field of application
The urban mobility plan could include some or all of the following categories

☐ **Administrative**

- ☐ Access restrictions
- ☐ Access incentives
- ☐ Advance booking (un)loading areas
- ☐ Low Emission/Environmental Zone

☒ **Financial**

- ☒ Mobility credits schemes
- ☒ Congestion charging
- ☐ Vehicle financing models

☐ **Organizational**

- ☐ Freight traffic routing information
- ☐ Alternative delivery systems

☐ **Technical**

- ☐ Intelligent freight traffic routing
- ☐ IT logistics tools

☐ **Awareness**

- ☐ Promotional and awareness campaigns
- ☐ Eco-driving
- ☐ Freight Operators Recognition Scheme (FORS)

☐ **Governance**

- ☐ Local Freight Development Plan (LFDP)
- ☐ Distribution plan-scheme
- ☐ Freight Quality Partnership (FQP)

☐ **Urban planning**

- ☐ Special urban planning conditions

Section 3: Expected impacts of the measure

3.1 Field of application/relevance

- ☒ Environmental (*air and noise pollution*)
- ☒ Energy (*energy consumption*)
- ☒ Economy (*retailers, manufactures, residents*)
- ☒ Safety and security (*drivers and vulnerable road users*)
- ☒ Transport efficiency (*optimization and costs efficiencies*)
- ☒ Land use and urban planning (*city administrations)*

3.2 Description of expected impacts of the measure (in qualitative terms)

Reduction of congestion and pollution in city centres.

Section 4: Decision making process and involved stakeholders

4.1 Policy design of the measure

☐ Initiated/supported by public administrations

☐ Initiated/supported by private sector

☒ Initiated/supported by public-private partnerships

4.2 Involved and key supporting target group(s) stakeholders

☒ Administrations

☒ Freight carriers

☒ Shippers

☒ Residents

4.3 Description of concertation and cooperation levels with target group(s) stakeholders

For the reference site:

City authorities: Municipality of Genoa

Public Transport Operators: Azienda Mobilitáe Trasporti S.p.A. (AMT) and Azienda Mobilitáe

Infrastrutture s.p.a (AMI) of Genoa

System and software providers: Softeco Sismat SpA

Private research and consultancy companies: D´Appolonia s.p.a (Genoa)

Public research and government agencies: Agenzia Regionale per l' Energia della Liguria Spa

(Regional Energy Agency), Agenzia Regionale per la Protezione dell' Ambiente Ligure

(Environmental Protection Agency of the Regione Liguria)

Universities: University of Genoa – Department of Economics and Quantitative Methods

Non-profit organisations: Istituto Internazionale Delle Comunicazioni (Genoa)

4.4 Average time needed for the policy design, sharing and operation start-up of the measure

☐ Less than 6 months

☒ 6 to 36 months

☐ More than 36 months

Section 5: Planning, implementation and monitoring of the measure

5.1 Description of drivers for success

1) Active input and participation from all stakeholders, especially operators and municipal authorities

2) Adequate budget to introduce the necessary technology

5.2 Implementability (possible barriers)

☐ Possible political obstacles:

☐ Possible concertation and cooperation obstacles: *May be resistance from operators to the increased costs*

☐ Possible financial obstacles: *Likely to be expensive to introduce, due to the technical requirements*

☒ Possible technical obstacles:

☒ Possible timeline obstacles:

5.3 Innovativeness of the measure

This is a innovative measure, in which access control equipment such as automatic number plate recognition technology records each vehicle entering the controlled zone, allowing the implementation of a mixed pricing/enforcement scheme, depending on the users. Residents are entitled to enter after paying a yearly subscription fee; frequent goods vehicles are permitted to enter at specified times, depending on the accumulation of sufficient mobility credits or on payment of access charges; occasional goods vehicles will be allowed to enter at specified times subject to a road charge scheme; and other users are not permitted to enter and are fined for doing so.

5.4 Transferability

Applicable to all municipalities but most applicable to historic centres, where access and road space is limited.

Section 6: Good practices example

6.1 Reference site(s)

- Country : **Italy**
- City : Genoa
- Population : 608,154
- Area in km^2 : 243.60 km^2

6.2 Description of effectiveness of the measure (in qualitative or quantitative terms)

This was part of a toolbox of coordinated initiatives which included:

-the establishment of a mobility credits system, limiting the access of freight vehicles to the target area on the basis of payment of a predetermined amount of mobility credits previously distributed by the public administration to all economic activities in the area (see Measure 23);

-the creation of one or more small proximity warehouses for the temporary storage of small quantities of goods in order to discourage traders to use their own vehicles to transport goods;

-the rationalisation of vehicle use by traders through the introduction of a van-sharing service (see Measure 19); and

-the elaboration of coherent regulations for commercial vehicle access to target areas.

Data on existing commercial activities in the historical city centre were collected and analysed. The scheme was then developed with the participation of local stakeholders (shopkeepers, artisans, transport associations). Each economic operator was given an initial credit budget in accordance with his requirements. The credits were spent on freight, either using vehicles owned by the business or those of professional carriers and couriers. The access control equipment records every entry to the zone and permits the implementation of a mixed pricing / enforcement scheme for different users. Frequent-user goods vehicles were allowed to enter at specified times and were subject to the mobility credits scheme. This means they needed to collect credits from the businesses as, without sufficient credits, they would be subjected to fines. Occasional-user goods vehicles were allowed to enter at specified times but were subjected to a road charge scheme (about € 7 for a daily permit to enter the area).

Results

The access control system resulted in a reduction in the number of vehicles accessing the historical centre limited traffic zone.

6.3 Lesson learned

6.4 More information: C-LIEGE UFT Database – Good Practice (GP) **Number 48**

Measure 25: Freight map for appropriate routes and vehicular restrictions

Section 1: Description of the measure

1.1 Description of the measure

Reducing congestion and environmental impact of urban freight transport by better freight traffic routing information including details of height/weight restrictions

1.2 Type of measure

- ☐ "**Push**" measure (disincentive)
- ☒ "**Pull**" measure (incentive)
- ☐ Combination of "**push-and-pull**" measures (disincentive and incentive)

Section 2: Category of the measure/field of application
The urban mobility plan could include some or all of the following categories

- ☐ **Administrative**
  - ☐ Access restrictions
  - ☐ Access incentives
  - ☐ Advance booking (un)loading areas
  - ☐ Low Emission/Environmental Zone
- ☐ **Financial**
  - ☐ Mobility credits schemes
  - ☐ Congestion charging
  - ☐ Vehicle financing models
- ☒ **Organizational**
  - ☒ Freight traffic routing information
  - ☐ Alternative delivery systems
- ☐ **Technical**
  - ☐ Intelligent freight traffic routing

- ☐ IT logistics tools

☐ **Awareness**

- ☐ Promotional and awareness campaigns
- ☐ Eco-driving
- ☐ Freight Operators Recognition Scheme (FORS)

☐ **Governance**

- ☐ Local Freight Development Plan (LFDP)
- ☐ Distribution plan-scheme
- ☐ Freight Quality Partnership (FQP)

☐ **Urban planning**

- ☐ Special urban planning conditions

Section 3: Expected impacts of the measure

3.1 Field of application/relevance

- ☒ Environmental (*air and noise pollution*)
- ☒ Energy (*energy consumption*)
- ☒ Economy (*retailers, manufactures, residents*)
- ☒ Safety and security (*drivers and vulnerable road users*)
- ☒ Transport efficiency (*optimization and costs efficiencies*)
- ☐ Land use and urban planning (*city administrations)*

3.2 Description of expected impacts of the measure (in qualitative terms)

Reducing congestion and environmental impact of urban freight transport.

Section 4: Decision making process and involved stakeholders

4.1 Policy design of the measure

- ☒ Initiated/supported by public administrations
- ☐ Initiated/supported by private sector
- ☐ Initiated/supported by public-private partnerships

4.2 Involved and key supporting target group(s) stakeholders

- ☐ Administrations
- ☒ Freight carriers
- ☐ Shippers
- ☐ Residents

4.3 Description of concertation and cooperation levels with target group(s) stakeholders

Requires co-operation from municipal authorities and freight operators.

4.4 Average time needed for the policy design, sharing and operation start-up of the measure

- ☐ Less than 6 months
- ☒ 6 to 36 months
- ☐ More than 36 months

Section 5: Planning, implementation and monitoring of the measure

5.1 Description of drivers for success

1) Active support from operators 2) Adequate budget to carry out necessary research and mapping

5.2 Implementability (possible barriers)

- ☐ Possible political obstacles:
- ☐ Possible concertation and cooperation obstacles:
- ☐ Possible financial obstacles:

☒Possible technical obstacles: The mapping is advisory so operators may not necessarily follow the suggested routes

☐ Possible timeline obstacles:

5.3 Innovativeness of the measure

Not innovative, freight mapping is quite common

5.4 Transferability

Applicable to all municipalities.

Section 6: Good practices example

6.1 Reference site(s)

- Country : **United Kingdom**
- City : Winchester
- Population : 114,300
- Area in km^2 : 660.97 km^2

6.2 Description of effectiveness of the measure (in qualitative or quantitative terms)

The freight map was regarded as a useful tool by delivery drivers.

6.3 Lesson learned

6.4 More information: C-LIEGE UFT Database – Good Practice (GP) **Number 50**

Measure 26: Web-based market place

Section 1: Description of the measure

1.1 Description of the measure

This measure is focused on small and medium-sized enterprises (SMEs) in the food sector who find it difficult to provide competitive logistics solutions to access markets. The existing logistics systems focuses on large flows of a limited number of products. The increasing market for a more diverse range of fresh produce meant that SMEs can be involved in an inefficient transport system, in which small volumes of specialist products are being transported for long distances into cities, sometimes even in the producer's own car. With growing concern on the part of consumers about food miles, the measure is designed to address this economically and environmentally inefficient situation by creating a web-based coordinated logistics system optimally a number of food producers in a given region

1.2 Type of measure

☐ "**Push**" measure (disincentive)

☒ "**Pull**" measure (incentive)

☐ Combination of "**push-and-pull**" measures (disincentive and incentive)

Section 2: Category of the measure/field of application
The urban mobility plan could include some or all of the following categories

☐ **Administrative**

- ☐ Access restrictions
- ☐ Access incentives
- ☐ Advance booking (un)loading areas
- ☐ Low Emission/Environmental Zone

☐ **Financial**

- ☐ Mobility credits schemes
- ☐ Congestion charging
- ☐ Vehicle financing models

☐ **Organizational**

- ☐ Freight traffic routing information
- ☐ Alternative delivery systems

☒ **Technical**

- ☐ Intelligent freight traffic routing
- ☒ IT logistics tools

☐ **Awareness**

- ☐ Promotional and awareness campaigns
- ☐ Eco-driving
- ☐ Freight Operators Recognition Scheme (FORS)

☐ **Governance**

- ☐ Local Freight Development Plan (LFDP)
- ☐ Distribution plan-scheme
- ☐ Freight Quality Partnership (FQP)

☐ **Urban planning**

- ☐ Special urban planning conditions

Section 3: Expected impacts of the measure

3.1 Field of application/relevance

- ☒ Environmental (*air and noise pollution*)
- ☒ Energy (*energy consumption*)
- ☒ Economy (*retailers, manufactures, residents*)
- ☒ Safety and security (*drivers and vulnerable road users*)
- ☒ Transport efficiency (*optimization and costs efficiencies*)
- ☐ Land use and urban planning (*city administrations)*

3.2 Description of expected impacts of the measure (in qualitative terms)

Reductions in energy use and environmental impact, and possible long-term economic benefits

Section 4: Decision making process and involved stakeholders

4.1 Policy design of the measure

☒ Initiated/supported by public administrations

☐ Initiated/supported by private sector

☐ Initiated/supported by public-private partnerships

4.2 Involved and key supporting target group(s) stakeholders

☒ Administrations

☒ Freight carriers

☒ Shippers

☒ Residents

4.3 Description of concertation and cooperation levels with target group(s) stakeholders

For reference site: Stakeholder 1 – Producers of regionally produced food Stakeholder 2 – Purchasers of regionally produced food Stakeholder 3 – End-users of regionally produced food Stakeholder 4 – Malmo City Council – The role of Malmo City Council was to coordinate project activity and to develop contacts with purchasers in the city and producers in the region. Stakeholder 5 – Skane Regional Council – The role of Skane Regional Council was to promote more coherent working to promote efficient logistics in the region by drawing together a logistics working group. Stakeholder 6 – Contracted Logistics Provider

4.4 Average time needed for the policy design, sharing and operation start-up of the measure

☐ Less than 6 months

☒ 6 to 36 months

☐ More than 36 months

Section 5: Planning, implementation and monitoring of the measure

5.1 Description of drivers for success

Important to actively promote the idea through information, communication and marketing.

5.2 Implementability (possible barriers)

- ☐ Possible political obstacles:
- ☐ Possible concertation and cooperation obstacles:
- ☐ Possible financial obstacles:
- ☐ Possible technical obstacles:
- ☐ Possible timeline obstacles:

5.3 Innovativeness of the measure

Highly innovative. The website allows purchasers to see the availability of different fresh products planned throughout the season, and producers are able to identify market demand. Coordinated orders are fed into the system so that deliveries can be made maximising vehicle capacity and reducing the number of kilometres travelled.

5.4 Transferability

Applicable to all municipalities especially ones where a large number of SMEs in the food sector are delivering into the city

Section 6: Good practices example

6.1 Reference site(s)

- Country : **Sweden**
- City : Malmo
- Population : 300,515
- Area in km^2 : 335.14 km^2

6.2 Description of effectiveness of the measure (in qualitative or quantitative terms)

Economic

At this stage revenue generated through the system is small and cannot be seen as added revenue, but is instead replacing other sales outlets – the growth aspects of the project will take time (maybe many years) to be realised, and have not yet become apparent.

Environmental

An attempt to project the potential reductions in energy use resulting from the virtual market place being operational has been made.

The values presented are the result of three scenario projections. The assumptions behind the scenarios are based on data from the market analysis and from 31 telephone interviews. Furthermore, in the absence of certain data, qualified suppositions have been made, and simulations on optimised distribution routes have been conducted. In the projections:

- scenario 1 is a mirror of the current situation (21 producers),
- scenario 2 includes an increase in the number of producers participating in the system to 50
- scenario 3 is an even larger system, with 75 producers.

The CO2 emission calculations suggest energy savings of approximately 30 000 MJ/year in scenario 1, 480 000 MJ/year in scenario 2, and 1.75 million MJ/year in scenario 3 as the distance travelled decreases and the energy mix becomes progressively more in favour of biogas.

In all three scenarios the logistics operator of the system would be able to reduce CO2 emissions (tonnes/year reductions respectively: - 2;-30; -110).

Social Benefits

7 out of 10 stakeholders (purchasers and producers of food products) believe that the idea of a virtual market place has a large potential (rather large or very large). Only 2 out of 29 (i.e. less than 1 out of 10) respondents believe that the idea has no potential at all.

6.3 Lesson learned

Both awareness levels and acceptance levels are reasonably high, pointing to a rather large potential, but also suggesting that more efforts should have been made when it comes to “selling the idea” through information, communication and marketing.

6.4 More information: C-LIEGE UFT Database – Good Practice (GP) **Number 92**

Measure 27: Computer simulation demonstrating efficient distribution of goods (in conjunction with Measures 28 and 29)

Section 1: Description of the measure

1.1 Description of the measure

This measure involves use of computer simulations to promote sustainable freight logistics and show stakeholders the benefits and positive impacts that would result from measures related to freight consolidation, if they were implemented.

1.2 Type of measure

- ☐ "**Push**" measure (disincentive)
- ☒ "**Pull**" measure (incentive)
- ☐ Combination of "**push-and-pull**" measures (disincentive and incentive)

Section 2: Category of the measure/field of application
The urban mobility plan could include some or all of the following categories

- ☐ **Administrative**
  - ☐ Access restrictions
  - ☐ Access incentives
  - ☐ Advance booking (un)loading areas
  - ☐ Low Emission/Environmental Zone
- ☐ **Financial**
  - ☐ Mobility credits schemes
  - ☐ Congestion charging
  - ☐ Vehicle financing models
- ☐ **Organizational**
  - ☐ Freight traffic routing information
  - ☐ Alternative delivery systems

☒ **Technical**

- ☐ Intelligent freight traffic routing
- ☒ IT logistics tools

☒ **Awareness**

- ☒ Promotional and awareness campaigns
- ☐ Eco-driving
- ☐ Freight Operators Recognition Scheme (FORS)

☐ **Governance**

- ☐ Local Freight Development Plan (LFDP)
- ☐ Distribution plan-scheme
- ☐ Freight Quality Partnership (FQP)

☐ **Urban planning**

- ☐ Special urban planning conditions

Section 3: Expected impacts of the measure

3.1 Field of application/relevance

- ☒ Environmental (*air and noise pollution*)
- ☒ Energy (*energy consumption*)
- ☒ Economy (*retailers, manufactures, residents*)
- ☐ Safety and security (*drivers and vulnerable road users*)
- ☒ Transport efficiency (*optimization and costs efficiencies*)
- ☐ Land use and urban planning (*city administrations)*

3.2 Description of expected impacts of the measure (in qualitative terms)

The measure itself will have no demonstrable impacts, as it is only a computer simulation. If the proposed measures were actually implemented, there would be reductions in emissions, trip distances and energy consumption.

Section 4: Decision making process and involved stakeholders

4.1 Policy design of the measure

☒ Initiated/supported by public administrations

☐ Initiated/supported by private sector

☐ Initiated/supported by public-private partnerships

4.2 Involved and key supporting target group(s) stakeholders

☒ Administrations

☒ Freight carriers

☒ Shippers

☐ Residents

4.3 Description of concertation and cooperation levels with target group(s) stakeholders

The good practice project illustrated involved co-operation with the Municipality of Ljubljana and the Research Institute of Slovenian Railways; private companies also participated, but not as partners

4.4 Average time needed for the policy design, sharing and operation start-up of the measure

☐ Less than 6 months

☒ 6 to 36 months

☐ More than 36 months

Section 5: Planning, implementation and monitoring of the measure

5.1 Description of drivers for success

1) Active input and participation from all stakeholders 2) Adequate budget to carry out necessary research and collaboration

5.2 Implementability (possible barriers)

☐ Possible political obstacles:

☐ Possible concertation and cooperation obstacles:

☒ Possible financial obstacles: *This measure only involves computer simulation; to set up a physical consolidation centre would involve significant cost*

☒ Possible technical obstacles: *This measure only involves computer simulation; to set up a physical consolidation centre would be a much more complex undertaking*

☒ Possible timeline obstacles: *Whilst the computer simulation could be completed relatively quickly, setting up a physical consolidation centre is a much more long-term undertaking which is unlikely to deliver positive benefits within the lifetime of the C-LIEGE project*

5.3 Innovativeness of the measure

The computer simulation will comprise testing of consolidated deliveries. It will demonstrate how, by implementing the measures included in the computer simulation, delivery of goods within a city would be more energy efficient and would result in reduced air pollution.

5.4 Transferability

Applicable to all municipalities.

Section 6: Good practices example

6.1 Reference site(s)

- Country : **Slovenia**
- City : Ljubljana
- Population : 272,220
- Area in km^2 : 163.8 km^2

6.2 Description of effectiveness of the measure (in qualitative or quantitative terms)

The measure is proposed to pave the way for a real consolidation centre, which is expected to result in a reduction of emissions, distance travelled by vehicles and reduced energy consumption of 10 - 20 percent. This was part of a package of integrated soft measures, implemented when it was not possible to proceed with a Freight Consolidation project. No results have been achieved yet.

6.3 Lesson learned

It was important to convince the municipality of Ljubljana, which focuses more on private and public passenger transport, to continue with the measure, after the initial project (START), whose main aim was to establish a consolidation centre, could not be delivered due to the financial crisis.

6.4 More information: C-LIEGE UFT Database – Good Practice (GP) **Number 52**

Measure 28: Online routing tool (in conjunction with Measures 27 and 29)

Section 1: Description of the measure

1.1 Description of the measure

This measure involves use of intelligent routing tools to produce online calculations of optimal routes into city centre and optimal paths in pedestrian zones.

1.2 Type of measure

- ☐ "**Push**" measure (disincentive)
- ☒ "**Pull**" measure (incentive)
- ☐ Combination of "**push-and-pull**" measures (disincentive and incentive)

Section 2: Category of the measure/field of application
The urban mobility plan could include some or all of the following categories

☐ **Administrative**

- ☐ Access restrictions
- ☐ Access incentives
- ☐ Advance booking (un)loading areas
- ☐ Low Emission/Environmental Zone

☐ **Financial**

- ☐ Mobility credits schemes
- ☐ Congestion charging
- ☐ Vehicle financing models

☐ **Organizational**

- ☐ Freight traffic routing information
- ☐ Alternative delivery systems

☒ **Technical**

- ☒ Intelligent freight traffic routing

☒ IT logistics tools

☐ **Awareness**

☐ Promotional and awareness campaigns

☐ Eco-driving

☐ Freight Operators Recognition Scheme (FORS)

☐ **Governance**

☐ Local Freight Development Plan (LFDP)

☐ Distribution plan-scheme

☐ Freight Quality Partnership (FQP)

☐ **Urban planning**

☐ Special urban planning conditions

Section 3: Expected impacts of the measure

3.1 Field of application/relevance

☒ Environmental (*air and noise pollution*)

☒ Energy (*energy consumption*)

☒ Economy (*retailers, manufactures, residents*)

☐ Safety and security (*drivers and vulnerable road users*)

☒ Transport efficiency (*optimization and costs efficiencies*)

☐ Land use and urban planning (*city administrations)*

3.2 Description of expected impacts of the measure (in qualitative terms)

Reduction in congestion, the distance travelled by freight vehicles and their energy consumption.

Section 4: Decision making process and involved stakeholders

4.1 Policy design of the measure

☒ Initiated/supported by public administrations

☐ Initiated/supported by private sector

☐ Initiated/supported by public-private partnerships

4.2 Involved and key supporting target group(s) stakeholders

☒ Administrations

☒ Freight carriers

☐ Shippers

☐ Residents

4.3 Description of concertation and cooperation levels with target group(s) stakeholders

4.4 Average time needed for the policy design, sharing and operation start-up of the measure

☐ Less than 6 months

☒ 6 to 36 months

☐ More than 36 months

Section 5: Planning, implementation and monitoring of the measure

5.1 Description of drivers for success

Adequate budget to introduce the online routing tools and to publicise them to operators

5.2 Implementability (possible barriers)

☐ Possible political obstacles:

☒ Possible concertation and cooperation obstacles: *If the routing tool is only advisory, operators may not follow the suggested routes*

☐ Possible financial obstacles:

☐ Possible technical obstacles:

☐ Possible timeline obstacles:

5.3 Innovativeness of the measure

A number of online routing tools are in place elsewhere.

5.4 Transferability

Applicable to all municipalities.

Section 6: Good practices example

6.1 Reference site(s)

- Country : **Slovenia**
- City : Ljubljana
- Population : 272,220
- Area in km^2 : 163.8km^2

6.2 Description of effectiveness of the measure (in qualitative or quantitative terms)

This measure is expected to reduce congestion, the distance travelled by freight vehicles and their energy consumption. This was part of a package of integrated soft measures, implemented when it was not possible to proceed with a Freight Consolidation project. No results have been achieved yet.

6.3 Lesson learned

6.4 More information: C-LIEGE UFT Database – Good Practice (GP) **Number 52**

Measure 29: Web promotion of sustainable city logistics (in conjunction with Measures 27 and 28)

Section 1: Description of the measure

1.1 Description of the measure

This measure involves online promotion of sustainable logistics, in conjunction with an integrated online rooting tool

1.2 Type of measure

- ☐ "**Push**" measure (disincentive)
- ☒ "**Pull**" measure (incentive)
- ☐ Combination of "**push-and-pull**" measures (disincentive and incentive)

Section 2: Category of the measure/field of application
The urban mobility plan could include some or all of the following categories

☐ **Administrative**

- ☐ Access restrictions
- ☐ Access incentives
- ☐ Advance booking (un)loading areas
- ☐ Low Emission/Environmental Zone

☐ **Financial**

- ☐ Mobility credits schemes
- ☐ Congestion charging
- ☐ Vehicle financing models

☐ **Organizational**

- ☐ Freight traffic routing information
- ☐ Alternative delivery systems

☒ **Technical**

- ☐ Intelligent freight traffic routing
- ☒ IT logistics tools

☒ **Awareness**

- ☒ Promotional and awareness campaigns
- ☐ Eco-driving
- ☐ Freight Operators Recognition Scheme (FORS)

☐ **Governance**

- ☐ Local Freight Development Plan (LFDP)
- ☐ Distribution plan-scheme
- ☐ Freight Quality Partnership (FQP)

☐ **Urban planning**

- ☐ Special urban planning conditions

Section 3: Expected impacts of the measure

3.1 Field of application/relevance

- ☒ Environmental (*air and noise pollution*)
- ☒ Energy (*energy consumption*)
- ☒ Economy (*retailers, manufactures, residents*)
- ☐ Safety and security (*drivers and vulnerable road users*)
- ☒ Transport efficiency (*optimization and costs efficiencies*)
- ☐ Land use and urban planning (*city administrations)*

3.2 Description of expected impacts of the measure (in qualitative terms)

Reduction in congestion, the distance travelled by freight vehicles and their energy consumption.

Section 4: Decision making process and involved stakeholders

4.1 Policy design of the measure

- ☒ Initiated/supported by public administrations
- ☐ Initiated/supported by private sector
- ☐ Initiated/supported by public-private partnerships

4.2 Involved and key supporting target group(s) stakeholders

- ☒ Administrations
- ☒ Freight carriers
- ☐ Shippers
- ☐ Residents

4.3 Description of concertation and cooperation levels with target group(s) stakeholders

Other partners at the reference site included the Municipality of Ljubljana and the Research Institute of Slovenian Railways; private companies also participated, but not as partners.

4.4 Average time needed for the policy design, sharing and operation start-up of the measure

- ☐ Less than 6 months
- ☒ 6 to 36 months
- ☐ More than 36 months

Section 5: Planning, implementation and monitoring of the measure

5.1 Description of drivers for success

Adequate budget to develop and promote the web portal

5.2 Implementability (possible barriers)

- ☐ Possible political obstacles:
- ☐ Possible concertation and cooperation obstacles:

☐ Possible financial obstacles:

☐ Possible technical obstacles:

☐ Possible timeline obstacles:

5.3 Innovativeness of the measure

Promotional campaigns of this kind have been used in a number of other locations

5.4 Transferability

Applicable to all municipalities.

Section 6: Good practices example

6.1 Reference site(s)

- Country : **Slovenia**
- City : Ljubljana
- Population : 272,220
- Area in km^2 : 163.8km^2

6.2 Description of effectiveness of the measure (in qualitative or quantitative terms)

This measure involves the online promotion of sustainable logistics, in conjunction with an integrated online rooting tool. This was part of a package of integrated soft measures, implemented when it was not possible to proceed with a Freight Consolidation project. No results have been achieved yet.

6.3 Lesson learned

6.4 More information: C-LIEGE UFT Database – Good Practice (GP) **Number 52**

Measure 30 - Virtual Distribution Centre

Section 1: Description of the measure

1.1 Description of the measure

An internet portal containing online information on the goods to be delivered to customers (address, the nature of the cargo volume, the type of packaging, etc.) and the transport company used to deliver the goods providing information on the availability of vehicles and their characteristics (the cargo compartment, etc.).

1.2 Type of measure

- ☐ "**Push**" measure (disincentive)
- ☒ "**Pull**" measure (incentive)
- ☐ Combination of "**push-and-pull**" measures (disincentive and incentive)

Section 2: Category of the measure/field of application
The urban mobility plan could include some or all of the following categories

☐ **Administrative**

- ☐ Access restrictions
- ☐ Access incentives
- ☐ Advance booking (un)loading areas
- ☐ Low Emission/Environmental Zone

☐ **Financial**

- ☐ Mobility credits schemes
- ☐ Congestion charging
- ☐ Vehicle financing models

☐ **Organizational**

- ☐ Freight traffic routing information
- ☐ Alternative delivery systems

☒ **Technical**

- ☐ Intelligent freight traffic routing
- ☒ IT logistics tools

☒ **Awareness**

- ☒ Promotional and awareness campaigns
- ☐ Eco-driving
- ☐ Freight Operators Recognition Scheme (FORS)

☐ **Governance**

- ☐ Local Freight Development Plan (LFDP)
- ☐ Distribution plan-scheme
- ☐ Freight Quality Partnership (FQP)

☐ **Urban planning**

- ☐ Special urban planning conditions

Section 3: Expected impacts of the measure

3.1 Field of application/relevance

- ☒ Environmental (*air and noise pollution*)
- ☒ Energy (*energy consumption*)
- ☒ Economy (*retailers, manufactures, residents*)
- ☒ Safety and security (*drivers and vulnerable road users*)
- ☒ Transport efficiency (*optimization and costs efficiencies*)
- ☐ Land use and urban planning (*city administrations)*

3.2 Description of expected impacts of the measure (in qualitative terms)

• Co-ordinated supply chain • Planning of SME resources • Minimization of transportation expenses

• Regulation of times for deliveries • Reduced impact on city traffic and environment

Section 4: Decision making process and involved stakeholders

4.1 Policy design of the measure

☒ Initiated/supported by public administrations

☐ Initiated/supported by private sector

☐ Initiated/supported by public-private partnerships

4.2 Involved and key supporting target group(s) stakeholders

☒ Administrations

☒ Freight carriers

☒ Shippers

☐ Residents

4.3 Description of concertation and cooperation levels with target group(s) stakeholders

Stakeholders at the reference site include: Riga City Council Latvian Retailers Association Transport and Telecommunication Institute Institute of Roads Transport of the Riga Technical University (RTU) Rigas satiksme Road Traffic Safety Directorate

4.4 Average time needed for the policy design, sharing and operation start-up of the measure

☐ Less than 6 months

☒ 6 to 36 months

☐ More than 36 months

Section 5: Planning, implementation and monitoring of the measure

5.1 Description of drivers for success

1) Mechanism for obtaining the necessary information from shippers and freight operators 2) Adequate budget and staffing to design, host and upload information to the web portal

5.2 Implementability (possible barriers)

☐ Possible political obstacles:

☒ Possible concertation and cooperation obstacles: *Shippers and operators may be unwilling to provide information, due to either shortage of time/staffing, or for reasons of commercial confidentiality*

☐ Possible financial obstacles:

☒ Possible technical obstacles: *Difficulty in obtaining the necessary information*

☐ Possible timeline obstacles:

5.3 Innovativeness of the measure

This is an innovative measure, in which the portal could be used to determine the minimum required number of vehicles needed to deliver goods for a specified period of operational planning (for example, the following day).

5.4 Transferability

Applicable to all municipalities.

Section 6: Good practices example

6.1 Reference site(s)

- Country : **Latvia**
- City : Riga,
- Population : 699,203
- Area in km^2 : 307.17 km^2

6.2 Description of effectiveness of the measure (in qualitative or quantitative terms)

By enabling more efficient use to be made of delivery fleets, there would be economic and environmental benefits

6.3 Lesson learned

6.4 More information: C-LIEGE UFT Database – Good Practice (GP) **Number 93**

Measure 31: Web service to manage preferred delivery locations and times

Section 1: Description of the measure

1.1 Description of the measure

This measure involves the use of an online database to manage preferred delivery locations for recipients of freight consignments. Customers upload information about delivery locations, delivery profiles and time windows to the database, which serves as an information hub for delivery data, accessed by private customers and logistics service providers.

1.2 Type of measure

- ☐ "**Push**" measure (disincentive)
- ☒ "**Pull**" measure (incentive)
- ☐ Combination of "**push-and-pull**" measures (disincentive and incentive)

Section 2: Category of the measure/field of application
The urban mobility plan could include some or all of the following categories

☐ **Administrative**

- ☐ Access restrictions
- ☐ Access incentives
- ☐ Advance booking (un)loading areas
- ☐ Low Emission/Environmental Zone

☐ **Financial**

- ☐ Mobility credits schemes
- ☐ Congestion charging
- ☐ Vehicle financing models

☐ **Organizational**

- ☐ Freight traffic routing information
- ☐ Alternative delivery systems

☒ **Technical**

- ☐ Intelligent freight traffic routing
- ☒ IT logistics tools

☐ **Awareness**

- ☐ Promotional and awareness campaigns
- ☐ Eco-driving
- ☐ Freight Operators Recognition Scheme (FORS)

☐ **Governance**

- ☐ Local Freight Development Plan (LFDP)
- ☐ Distribution plan-scheme
- ☐ Freight Quality Partnership (FQP)

☐ **Urban planning**

- ☐ Special urban planning conditions

Section 3: Expected impacts of the measure

3.1 Field of application/relevance

- ☒ Environmental (*air and noise pollution*)
- ☒ Energy (*energy consumption*)
- ☒ Economy (*retailers, manufactures, residents*)
- ☐ Safety and security (*drivers and vulnerable road users*)
- ☒ Transport efficiency (*optimization and costs efficiencies*)
- ☐ Land use and urban planning (*city administrations)*

3.2 Description of expected impacts of the measure (in qualitative terms)

To improve the knowledge of the loading/unloading situation at shops or private customers (time windows, locations) in order to streamline the delivery process, reducing costs and environmental impacts

Section 4: Decision making process and involved stakeholders

4.1 Policy design of the measure

- ☒ Initiated/supported by public administrations
- ☐ Initiated/supported by private sector
- ☐ Initiated/supported by public-private partnerships

4.2 Involved and key supporting target group(s) stakeholders

- ☐ Administrations
- ☒ Freight carriers
- ☒ Shippers
- ☐ Residents

4.3 Description of concertation and cooperation levels with target group(s) stakeholders

Stakeholders at the reference sites include:
The city of Stuttgart
FIT Consulting srl
PTV Planung Transport Verkehr AG
Universität Karlsruhe
Istituto Dalle Molle di Studi sull'Intelligenza Artificiale
University of Cambridge
Interporto di Padova spa
Ente per le nuove tecnologie, l'energia e l'ambiente
Commissione Regionale dei Trasporti del Luganese

4.4 Average time needed for the policy design, sharing and operation start-up of the measure

- ☐ Less than 6 months
- ☒ 6 to 36 months
- ☐ More than 36 months

Section 5: Planning, implementation and monitoring of the measure

5.1 Description of drivers for success

Willingness of shippers to use the service

5.2 Implementability (possible barriers)

☐ Possible political obstacles:

☒ Possible concertation and cooperation obstacles: *Needs to be sufficient support from shippers to justify investment in the database*

☐ Possible financial obstacles:

☐ Possible technical obstacles:

☐ Possible timeline obstacles:

5.3 Innovativeness of the measure

An innovative measure whose aim is to improve the knowledge of the loading/unloading situation at shops or private customers (time windows, locations)

5.4 Transferability

Applicable to all municipalities.

Section 6: Good practices example

6.1 Reference site(s)

Country	**Germany**	**Germany**	**Switzerland**	**United Kingdom**	**Italy**	**Switzerland**
Cities	Stuttgart	Karlsruhe	Manno	Cambridge	Padova	Bellinzona
Population	606,588	294,761	1,241	125,700	214,125	17,373
Area in km2	207.36	173.46	2.38	115.65	92.85	19.15

6.2 Description of effectiveness of the measure (in qualitative or quantitative terms)

By improving the knowledge of the loading/unloading situation at shops or private customers (time windows, locations), it is hoped that the MOSCA.NET web service can help to streamline the delivery process, reducing costs and environmental impacts

6.4 More information: C-LIEGE UFT Database – Good Practice (GP) **Number 94**

Measure 32: Algorithm to plan deliveries when unexpected events take place

Section 1: Description of the measure

1.1 Description of the measure

This measure involves the use of an algorithm to plan delivery schedules for a vehicle fleet when there are sudden changes in traffic conditions

1.2 Type of measure

- ☐ "**Push**" measure (disincentive)
- ☒ "**Pull**" measure (incentive)
- ☐ Combination of "**push-and-pull**" measures (disincentive and incentive)

Section 2: Category of the measure/field of application
The urban mobility plan could include some or all of the following categories

- ☐ **Administrative**
  - ☐ Access restrictions
  - ☐ Access incentives
  - ☐ Advance booking (un)loading areas
  - ☐ Low Emission/Environmental Zone
- ☐ **Financial**
  - ☐ Mobility credits schemes
  - ☐ Congestion charging
  - ☐ Vehicle financing models
- ☐ **Organizational**
  - ☐ Freight traffic routing information
  - ☐ Alternative delivery systems
- ☒ **Technical**
  - ☐ Intelligent freight traffic routing

☒ IT logistics tools

☐ **Awareness**

- ☐ Promotional and awareness campaigns
- ☐ Eco-driving
- ☐ Freight Operators Recognition Scheme (FORS)

☐ **Governance**

- ☐ Local Freight Development Plan (LFDP)
- ☐ Distribution plan-scheme
- ☐ Freight Quality Partnership (FQP)

☐ **Urban planning**

- ☐ Special urban planning conditions

Section 3: Expected impacts of the measure

3.1 Field of application/relevance

- ☒ Environmental (*air and noise pollution*)
- ☒ Energy (*energy consumption*)
- ☒ Economy (*retailers, manufacturers, residents*)
- ☒ Safety and security (*drivers and vulnerable road users*)
- ☒ Transport efficiency (*optimization and costs efficiencies*)
- ☐ Land use and urban planning (*city administrations)*

3.2 Description of expected impacts of the measure (in qualitative terms)

To improve the use of dynamic information (changing traffic situation, new incoming orders) in organising delivery schedules.

Section 4: Decision making process and involved stakeholders

4.1 Policy design of the measure

- ☒ Initiated/supported by public administrations
- ☐ Initiated/supported by private sector
- ☐ Initiated/supported by public-private partnerships

4.2 Involved and key supporting target group(s) stakeholders

- ☐ Administrations
- ☒ Freight carriers
- ☐ Shippers
- ☐ Residents

4.3 Description of concertation and cooperation levels with target group(s) stakeholders

Stakeholders at the reference sites include:
The city of Padova
FIT Consulting srl
PTV Planung Transport Verkehr AG
Universität Karlsruhe
Istituto Dalle Molle di Studi sull'Intelligenza Artificiale
University of Cambridge
Interporto di Padova spa
Ente per le nuove tecnologie, l'energia e l'ambiente
Commissione Regionale dei Trasporti del Luganese

4.4 Average time needed for the policy design, sharing and operation start-up of the measure

- ☐ Less than 6 months
- ☒ 6 to 36 months
- ☐ More than 36 months

Section 5: Planning, implementation and monitoring of the measure

5.1 Description of drivers for success

5.2 Implementability (possible barriers)

- ☐ Possible political obstacles:
- ☐ Possible concertation and cooperation obstacles:
- ☐ Possible financial obstacles:
- ☐ Possible technical obstacles:
- ☐ Possible timeline obstacles:

5.3 Innovativeness of the measure

This is an innovative measure using an algorithm to plan delivery schedules for a vehicle fleet when there are sudden changes in traffic conditions. The algorithm is embedded into logistics application software, which provides data about the orders to be serviced, the objective function, and the characteristics of the vehicles' fleet.

5.4 Transferability

Applicable to all municipalities.

Section 6: Good practices example

6.1 Reference site(s)

Country	**Germany**	**Germany**	**Switzerland**	**United Kingdom**	**Italy**	**Switzerland**
Cities	Stuttgart	Karlsruhe	Manno	Cambridge	Padova	Bellinzona
Population	606,588	294,761	1,241	125,700	214,125	17,373
Area in km2	207.36	173.46	2.38	115.65	92.85	19.15

6.2 Description of effectiveness of the measure (in qualitative or quantitative terms)

MOSCA TOUR is an algorithm that is used to plan delivery schedules for a vehicle fleet when there are sudden changes in traffic conditions. The algorithm is embedded into logistics application software, which provides data about the orders to be serviced, the objective function, and the characteristics of the vehicles' fleet

6.3 Lesson learned

6.4 More information: C-LIEGE UFT Database – Good Practice (GP) **Number 94**

Measure 33: Systems for assessment of UFT impacts

Section 1: Description of the measure

1.1 Description of the measure

This measure involves development of a transport planning model to enable the social costs of freight traffic (such as noise emissions) to be identified more precisely and a monetary value to be applied.

1.2 Type of measure

- ☐ "**Push**" measure (disincentive)
- ☒ "**Pull**" measure (incentive)
- ☐ Combination of "**push-and-pull**" measures (disincentive and incentive)

Section 2: Category of the measure/field of application

The urban mobility plan could include some or all of the following categories

☐ **Administrative**

- ☐ Access restrictions
- ☐ Access incentives
- ☐ Advance booking (un)loading areas
- ☐ Low Emission/Environmental Zone

☐ **Financial**

- ☐ Mobility credits schemes
- ☐ Congestion charging
- ☐ Vehicle financing models

☐ **Organizational**

- ☐ Freight traffic routing information
- ☐ Alternative delivery systems

☒ **Technical**

- ☐ Intelligent freight traffic routing
- ☒ IT logistics tools

☐ **Awareness**

- ☐ Promotional and awareness campaigns
- ☐ Eco-driving
- ☐ Freight Operators Recognition Scheme (FORS)

☐ **Governance**

- ☐ Local Freight Development Plan (LFDP)
- ☐ Distribution plan-scheme
- ☐ Freight Quality Partnership (FQP)

☐ **Urban planning**

- ☐ Special urban planning conditions

Section 3: Expected impacts of the measure

3.1 Field of application/relevance

- ☒ Environmental (*air and noise pollution*)
- ☐ Energy (*energy consumption*)
- ☐ Economy (*retailers, manufactures, residents*)
- ☐ Safety and security (*drivers and vulnerable road users*)
- ☐ Transport efficiency (*optimization and costs efficiencies*)
- ☐ Land use and urban planning (*city administrations)*

3.2 Description of expected impacts of the measure (in qualitative terms)

The measure should enable the social costs of business and freight traffic (in terms of noise) to be precisely estimated, allowing the costs and benefits of preventive measures to be assessed.

Section 4: Decision making process and involved stakeholders

4.1 Policy design of the measure

- ☒ Initiated/supported by public administrations
- ☐ Initiated/supported by private sector
- ☐ Initiated/supported by public-private partnerships

4.2 Involved and key supporting target group(s) stakeholders

- ☒ Administrations
- ☐ Freight carriers
- ☐ Shippers
- ☐ Residents

4.3 Description of concertation and cooperation levels with target group(s) stakeholders

Stakeholders at the reference sites include:
The cities of Stuttgart and Chemnitz
FIT Consulting srl
PTV Planung Transport Verkehr AG
Universität Karlsruhe
Istituto Dalle Molle di Studi sull'Intelligenza Artificiale
University of Cambridge
Interporto di Padova spa
Ente per le nuove tecnologie, l'energia e l'ambiente
Commissione Regionale dei Trasporti del Luganese

4.4 Average time needed for the policy design, sharing and operation start-up of the measure

- ☐ Less than 6 months
- ☒ 6 to 36 months
- ☐ More than 36 months

Section 5: Planning, implementation and monitoring of the measure

5.1 Description of drivers for success

Adequate budget to carry out the necessary modelling work

5.2 Implementability (possible barriers)

☐ Possible political obstacles:

☐ Possible concertation and cooperation obstacles:

☐ Possible financial obstacles:

☒ Possible technical obstacles: *Whilst of social benefit, this project is focused on social impacts (such as noise reduction) rather than energy consumption, and therefore may fall outside the remit of the C-LIEGE project*

☐ Possible timeline obstacles:

5.3 Innovativeness of the measure

MOSCA FREIGHT (VISEVA-W) and the related MOSCA SUSTAIN are intended to integrate freight transport into available urban transport models, allowing for the more accurate modelling of urban freight traffic, and its social impacts to be more precisely identified. VISEVA-W is now integrated into the overall model structure of the VISEVA model for passenger transport demand and the VISUM model for traffic assignment.

5.4 Transferability

Applicable to all municipalities.

Section 6: Good practices example

6.1 Reference site(s)

Country	**Germany**	**Germany**	**Switzerland**	**United Kingdom**	**Italy**	**Switzerland**
Cities	Stuttgart	Karlsruhe	Manno	Cambridge	Padova	Bellinzona
Population	606,588	294,761	1,241	125,700	214,125	17,373
Area in km2	207.36	173.46	2.38	115.65	92.85	19.15

6.2 Description of effectiveness of the measure (in qualitative or quantitative terms)

Social Benefits

The implementation of a speed limit resulted in a reduction in noise of almost 35%.

6.3 Lesson learned

6.4 More information: C-LIEGE UFT Database – Good Practice (GP) **Number 94**

Measure 34: Signposting freight routes

Section 1: Description of the measure

1.1 Description of the measure

By better signposting of freight routes, freight movements become more efficient with reductions in congestion, pollution and noise.

1.2 Type of measure

- ☐ "**Push**" measure (disincentive)
- ☒ "**Pull**" measure (incentive)
- ☐ Combination of "**push-and-pull**" measures (disincentive and incentive)

Section 2: Category of the measure/field of application
The urban mobility plan could include some or all of the following categories

- ☐ **Administrative**
  - ☐ Access restrictions
  - ☐ Access incentives
  - ☐ Advance booking (un)loading areas
  - ☐ Low Emission/Environmental Zone
- ☐ **Financial**
  - ☐ Mobility credits schemes
  - ☐ Congestion charging
  - ☐ Vehicle financing models
- ☒ **Organizational**
  - ☒ Freight traffic routing information
  - ☐ Alternative delivery systems
- ☐ **Technical**
  - ☐ Intelligent freight traffic routing

☐ IT logistics tools

☐ **Awareness**

☐ Promotional and awareness campaigns

☐ Eco-driving

☐ Freight Operators Recognition Scheme (FORS)

☐ **Governance**

☐ Local Freight Development Plan (LFDP)

☐ Distribution plan-scheme

☐ Freight Quality Partnership (FQP)

☐ **Urban planning**

☐ Special urban planning conditions

Section 3: Expected impacts of the measure

3.1 Field of application/relevance

☒ Environmental (*air and noise pollution*)

☒ Energy (*energy consumption*)

☒ Economy (*retailers, manufactures, residents*)

☒ Safety and security (*drivers and vulnerable road users*)

☒ Transport efficiency (*optimization and costs efficiencies*)

☐ Land use and urban planning (*city administrations)*

3.2 Description of expected impacts of the measure (in qualitative terms)

The number of heavy lorries entering city centres or other built-up areas is reduced, and the result is less congestion, pollution and noise.

Section 4: Decision making process and involved stakeholders

4.1 Policy design of the measure

☒ Initiated/supported by public administrations

☐ Initiated/supported by private sector

☐ Initiated/supported by public-private partnerships

4.2 Involved and key supporting target group(s) stakeholders

☒ Administrations

☒ Freight carriers

☐ Shippers

☐ Residents

4.3 Description of concertation and cooperation levels with target group(s) stakeholders

Municipality and other stakeholders

4.4 Average time needed for the policy design, sharing and operation start-up of the measure

☐ Less than 6 months

☒ 6 to 36 months

☐ More than 36 months

Section 5: Planning, implementation and monitoring of the measure

5.1 Description of drivers for success

Funding to install the necessary signposting

5.2 Implementability (possible barriers)

☐ Possible political obstacles:

☐ Possible concertation and cooperation obstacles:

☐ Possible financial obstacles:

☒ Possible technical obstacles: *As the signposting is only advisory, there is no compulsion for operators to follow the suggested routes*

☐ Possible timeline obstacles:

5.3 Innovativeness of the measure

The measure is not innovative, as signposting has been applied in other cities

5.4 Transferability

It is transferable and exists in many other cities.

Section 6: Good practices example

6.1 Reference site(s)

- Country : **Romania**
- City : Ploiesti
- Population : 197,542
- Area in km^2 : 58.2 km^2

6.2 Description of effectiveness of the measure (in qualitative or quantitative terms)

6.3 Lesson learned

6.4 More information: C-LIEGE UFT Database – Good Practice (GP) **Number 15**

Measure 35: Environmental zones

Section 1: Description of the measure

1.1 Description of the measure

This measure involves restricting access to city centres for the heaviest and most polluting heavy goods vehicles, in order to reduce noise, congestion and other negative environmental impacts, and thus enhance the quality of life.

1.2 Type of measure

- ☒ "**Push**" measure (disincentive)
- ☐ "**Pull**" measure (incentive)
- ☐ Combination of "**push-and-pull**" measures (disincentive and incentive)

Section 2: Category of the measure/field of application
The urban mobility plan could include some or all of the following categories

☒ **Administrative**

- ☐ Access restrictions
- ☐ Access incentives
- ☐ Advance booking (un)loading areas
- ☒ Low Emission/Environmental Zone

☐ **Financial**

- ☐ Mobility credits schemes
- ☐ Congestion charging
- ☐ Vehicle financing models

☐ **Organizational**

- ☐ Freight traffic routing information
- ☐ Alternative delivery systems

☐ **Technical**

- ☐ Intelligent freight traffic routing
- ☐ IT logistics tools

☐ **Awareness**

- ☐ Promotional and awareness campaigns
- ☐ Eco-driving
- ☐ Freight Operators Recognition Scheme (FORS)

☐ **Governance**

- ☐ Local Freight Development Plan (LFDP)
- ☐ Distribution plan-scheme
- ☐ Freight Quality Partnership (FQP)

☐ **Urban planning**

- ☐ Special urban planning conditions

Section 3: Expected impacts of the measure

3.1 Field of application/relevance

- ☒ Environmental (*air and noise pollution*)
- ☒ Energy (*energy consumption*)
- ☒ Economy (*retailers, manufactures, residents*)
- ☒ Safety and security (*drivers and vulnerable road users*)
- ☒ Transport efficiency (*optimization and costs efficiencies*)
- ☐ Land use and urban planning (*city administrations)*

3.2 Description of expected impacts of the measure (in qualitative terms)

Reduction in congestion, noise and other negative environmental impacts.

Section 4: Decision making process and involved stakeholders

4.1 Policy design of the measure

☒ Initiated/supported by public administrations

☐ Initiated/supported by private sector

☐ Initiated/supported by public-private partnerships

4.2 Involved and key supporting target group(s) stakeholders

☒ Administrations

☒ Freight carriers

☐ Shippers

☒ Residents

4.3 Description of concertation and cooperation levels with target group(s) stakeholders

Municipalities are the key decision-makers for this measure

4.4 Average time needed for the policy design, sharing and operation start-up of the measure

☐ Less than 6 months

☒ 6 to 36 months

☐ More than 36 months

Section 5: Planning, implementation and monitoring of the measure

5.1 Description of drivers for success

1) Strong political support as the measure may prove unpopular with some freight operators 2) Sufficient budget to carry out the necessary signage and enforcement work, and (in some cases) to help fund vehicle replacement

5.2 Implementability (possible barriers)

☒ Possible political obstacles:*Local politicians may not support a measure which could prove controversial and unpopular*

☒ Possible concertation and cooperation obstacles: *Likely to be opposed by some freight operators, especially those with the oldest fleets*

☒ Possible financial obstacles: *Such a scheme may be expensive to introduce, for both the municipality and for operators. Here are examples of the costs incurred in Utrecht.*

Operators

Trucks and lorries with a Euro 0 or Euro 1 engine are not allowed to enter the LEZ. Currently only Euro 4 and 5 trucks are allowed in the environmental zone and Euro 3 trucks are only allowed under special conditions (with soot filters and if not more than 8 years old). The introduction of the LEZ meant that companies had to invest in their fleets. For adapting/replacing 6,500 vehicles, the costs were around €69 million. This is approximately €10,000 per vehicle. On the other hand, for the installation of a certified filter, a company can obtain subsidies up to 85%. There is also a subsidy for the purchase of a Euro 5 truck/lorry or the possibility of tax deductions.

Municipality

· *Cameras: €0.5 - €0.8 million in 5 years;*

· *Traffic signs: 55-60 locations;*

· *Communication costs: approximately €10,000;*

· *Capacity costs for the requests of single access permits (1,000-5,000 single access permits per year).*

☐ Possible technical obstacles:

☒ Possible timeline obstacles: *Due to the degree of consultation and preparation necessary to introduce such a measure, it is unlikely to be deliverable within the C-LIEGE timescale.*

5.3 Innovativeness of the measure

The measure is not innovative, as it has been applied in several other cities such as Utrecht, Lisbon, Aalborg, Burgos, London, Bremen

5.4 Transferability

Applicable to all municipalities but, in practice, it is most relevant to large cities where there are significant air quality concerns.

Section 6: Good practices example

6.1 Reference site(s)

Country	**Czech Republic**	**Denmark**	**Netherlands**
City	Prague	Aalborg	Utrecht
Population	1,262,106	126,556	316,448
Area in km2	496	139	99.32

6.2 Description of effectiveness of the measure (in qualitative or quantitative terms)

Economic

The primary goal of the LEZ is to improve the environment. However, as stated above, the LEZ requirements have helped to stimulate a trend towards the purchase of newer vehicles, which may have been of benefit to the economy.

Environmental

Restrictions on transit traffic were extended and stricter rules were adopted for part of the zone. The measure achieved:

- a reduction in emissions of carbon dioxide, nitrogen oxides and particulates;
- a reduction in energy consumption;
- a change in the fleet towards more fuel efficient and cleaner vehicles; and
- a more attractive city centre.

In the municipality of Utrecht the estimated environmental effects were:

· Border centre zone: 0.2-2.6 mg/m3 reduction of PM10;

· Border city: 0.1-1.1 mg/m3 reduction of PM10.

Social Benefits

Less traffic accidents and higher quality of life for the citizens and for the city

6.3 Lesson learned

Support for the scheme was secured through the smooth and gradual introduction of the LEZ.

6.4 More information: C-LIEGE UFT Database – Good Practice (GP) **Number 21-22-24**

Measure 36: Freight Quality Partnerships

Section 1: Description of the measure

1.1 Description of the measure

By bringing together a wide range of freight stakeholders on a regular basis, including operators, administrators, retailers, City Councils, Freight Shippers, trade associations, environmental groups and researchers, relevant urban freight issues and challenges can be analysed and action plans agreed

1.2 Type of measure

- ☐ "**Push**" measure (disincentive)
- ☒ "**Pull**" measure (incentive)
- ☐ Combination of "**push-and-pull**" measures (disincentive and incentive)

Section 2: Category of the measure/field of application

- ☐ **Administrative**
  - ☐ Access restrictions
  - ☐ Access incentives
  - ☐ Advance booking (un)loading areas
  - ☐ Low Emission/Environmental Zone
- ☐ **Financial**
  - ☐ Mobility credits schemes
  - ☐ Congestion charging
  - ☐ Vehicle financing models
- ☐ **Organizational**
  - ☐ Freight traffic routing information
  - ☐ Alternative delivery systems

☐ **Technical**

- ☐ Intelligent freight traffic routing
- ☐ IT logistics tools

☐ **Awareness**

- ☐ Promotional and awareness campaigns
- ☐ Eco-driving
- ☐ Freight Operators Recognition Scheme (FORS)

☒ **Governance**

- ☐ Local Freight Development Plan (LFDP)
- ☐ Distribution plan-scheme
- ☒ Freight Quality Partnership (FQP)

☐ **Urban planning**

- ☐ Special urban planning conditions

Section 3: Expected impacts of the measure

3.1 Field of application/relevance

- ☒ Environmental (*air and noise pollution*)
- ☒ Energy (*energy consumption*)
- ☒ Economy (*retailers, manufactures, residents*)
- ☒ Safety and security (*drivers and vulnerable road users*)
- ☒ Transport efficiency (*optimization and costs efficiencies*)
- ☒ Land use and urban planning (*city administrations)*

3.2 Description of expected impacts of the measure (in qualitative terms)

Benefits for the local economy and environment, reduced energy consumption, as well as improved road safety and traffic flow

Section 4: Decision making process and involved stakeholders

4.1 Policy design of the measure

- ☐ Initiated/supported by public administrations
- ☐ Initiated/supported by private sector
- ☒ Initiated/supported by public-private partnerships

4.2 Involved and key supporting target group(s) stakeholders

- ☒ Administrations
- ☒ Freight carriers
- ☒ Shippers
- ☐ Residents

4.3 Description of concertation and cooperation levels with target group(s) stakeholders

Requires liaison with as many relevant freight stakeholders as possible, to increase the effectiveness of the Partnership

4.4 Average time needed for the policy design, sharing and operation start-up of the measure

- ☐ Less than 6 months
- ☒ 6 to 36 months
- ☐ More than 36 months

Section 5: Planning, implementation and monitoring of the measure

5.1 Description of drivers for success

Active input and participation from all stakeholders, plus sufficient funding to introduce proposed measures

5.2 Implementability (possible barriers)

- ☐ Possible political obstacles:
- ☐ Possible concertation and cooperation obstacles:

☒ Possible financial obstacles: *Adequate funding is essential so that the Partnership can deliver tangible outcomes; without this, freight operators may lose interest in taking part.*

☐ Possible technical obstacles:

☐ Possible timeline obstacles:

5.3 Innovativeness of the measure

The measure is not innovative, since Freight Quality Partnerships are in use in a number of other cities across Europe.

5.4 Transferability

This measure is transferrable to any town or city.

Section 6: Good practices example

6.1 Reference site(s)

Country		**United Kingdom**			**Romania**	**Spain**	**Sweden**	**Slovenia**
Cities	Newcastle upon Tyne	Brighton and Hove	Norwich	Bristol	Iasi	San Sebastian	Göteborg	Ljubjana
Population	292,200	256,600	135,100	441,300	263,410	186,122	520,374	272,220
Area in km²	113	87.54	39.02	110	93.9	60.89	450	163.8

Freight Partnerships have been introduced in a number of cities, including Newcastle upon Tyne, Brighton & Hove, Iasi, San Sebastian, Ploiesti, Norwich, Bristol, Göteborg and Ljubjana

6.2 Description of effectiveness of the measure (in qualitative or quantitative terms)

There is widespread agreement on the effectiveness of Freight Partnerships. There have been difficulties in some locations; in Ploiesti, Romania, there was only limited interest from operators in forming a stakeholders group. It was also difficult to encourage those who did express an interest in forming a club to attend any regular working group meetings.

6.3 Lesson learned

Need for close involvement of all relevant stakeholders, political support and adequate funding to deliver tangible measures

6.4 More information: C-LIEGE UFT Database – Good Practice (GP) **Number 27 – 28 – 29 – 30 – 31 – 32 – 33 – 35 – 36**

Measure 37: Freight Noise Mapping

Section 1: Description of the measure

1.1 Description of the measure

Noise mapping is intended to identify areas where the noise burden caused by freight transport exceeds applicable EU regulations.

1.2 Type of measure

- ☒ "**Push**" measure (disincentive)
- ☐ "**Pull**" measure (incentive)
- ☐ Combination of "**push-and-pull**" measures (disincentive and incentive)

Section 2: Category of the measure/field of application

☐ **Administrative**

- ☐ Access restrictions
- ☐ Access incentives
- ☐ Advance booking (un)loading areas
- ☐ Low Emission/Environmental Zone

☐ **Financial**

- ☐ Mobility credits schemes
- ☐ Congestion charging
- ☐ Vehicle financing models

☒ **Organizational**

- ☐ Freight traffic routing information
- ☐ Alternative delivery systems
- ☒ Freight traffic noise mapping

☐ **Technical**

- ☐ Intelligent freight traffic routing
- ☐ IT logistics tools

☐ **Awareness**

- ☐ Promotional and awareness campaigns
- ☐ Eco-driving
- ☐ Freight Operators Recognition Scheme (FORS)

☐ **Governance**

- ☐ Local Freight Development Plan (LFDP)
- ☐ Distribution plan-scheme
- ☐ Freight Quality Partnership (FQP)

☐ **Urban planning**

- ☐ Special urban planning conditions

Section 3: Expected impacts of the measure

3.1 Field of application/relevance

- ☒ Environmental (*air and noise pollution*)
- ☐ Energy (*energy consumption*)
- ☐ Economy (*retailers, manufactures, residents*)
- ☐ Safety and security (*drivers and vulnerable road users*)
- ☐ Transport efficiency (*optimization and costs efficiencies*)
- ☐ Land use and urban planning (*city administrations)*

3.2 Description of expected impacts of the measure (in qualitative terms)

Benefits for the local environment, as a result of reduced noise pollution (assuming that mitigating measures are taken based on the information revealed by the mapping)

Section 4: Decision making process and involved stakeholders

4.1 Policy design of the measure

- ☒ Initiated/supported by public administrations
- ☐ Initiated/supported by private sector
- ☐ Initiated/supported by public-private partnerships

4.2 Involved and key supporting target group(s) stakeholders

- ☒ Administrations
- ☐ Freight carriers
- ☐ Shippers
- ☐ Residents

4.3 Description of concertation and cooperation levels with target group(s) stakeholders

The actual mapping can be done by the municipality, possibly drawing on the technical expertise of local universities. Implementation of noise mitigation measures based on the mapping outcomes requires liaison and support from the freight sector

4.4 Average time needed for the policy design, sharing and operation start-up of the measure

- ☐ Less than 6 months
- ☒ 6 to 36 months
- ☐ More than 36 months

Section 5: Planning, implementation and monitoring of the measure

5.1 Description of drivers for success

Active input and participation from all stakeholders, plus sufficient funding to introduce proposed measures

5.2 Implementability (possible barriers)

- ☐ Possible political obstacles:
- ☐ Possible concertation and cooperation obstacles:

☐ Possible financial obstacles:

☐ Possible technical obstacles:

☐ Possible timeline obstacles: *There are no significant obstacles to the mapping itself, but there may be various obstacles to the mitigation measures that may be required as a result of the mapping*

5.3 Innovativeness of the measure

Innovative measure.

5.4 Transferability

The measure can be replicated in any town/city where freight vehicle noise is a problem. Bradford (United Kingdom) is undertaking a range of similar policies to reduce the impact of freight noise within the city.

Section 6: Good practices example

6.1 Reference site(s)

- Country ***Czech Republic***
- City Ústí nad Labem
- Population 95,464
- Area in km^2 93.95 km^2

6.2 Description of effectiveness of the measure (in qualitative or quantitative terms)

Freight noise is identified as a particular problem in terms of quality of life in Usti Nad Labem. The reduction of this is identified as being the key for assisting with such things as mood, and enabling residents to sleep. The noise map will identify areas where there is significant need to reduce the noise burden caused by freight transport. The required limit is minimum 5% beyond the applicable EU regulations. The outcome is not yet clear but it is hoped that, by mid 2012, noise levels can be reduced to below 65db across the areas of the city most heavily impacted by freight.

6.3 Lesson learned

Need for adequate funding and political / stakeholder support to deliver mitigation measures in response to the noise mapping

6.4 More information: C-LIEGE UFT Database – Good Practice (GP**) Number 98**

Measure 38: Mobility Master Plan (or Local Transport Plan)

Section 1: Description of the measure

1.1 Description of the measure

Mobility Master Plans (MMPs) are intended to represent the global transport policy of a large municipality, including urban goods movements. MMPs aim to improve air quality and public health, promote accessibility and social justice, making cities more pleasant and increasing economic performance. In the UK, the equivalent document is the Local Transport Plan, drawn up by towns and cities, either individually or (where the towns and cities work closely together) on a pooled basis.

1.2 Type of measure

- ☐ "**Push**" measure (disincentive)
- ☐ "**Pull**" measure (incentive)
- ☒ Combination of "**push-and-pull**" measures (disincentive and incentive)

Section 2: Category of the measure/field of application

- ☐ **Administrative**
  - ☐ Access restrictions
  - ☐ Access incentives
  - ☐ Advance booking (un)loading areas
  - ☐ Low Emission/Environmental Zone
- ☐ **Financial**
  - ☐ Mobility credits schemes
  - ☐ Congestion charging
  - ☐ Vehicle financing models
- ☐ **Organizational**
  - ☐ Freight traffic routing information
  - ☐ Alternative delivery systems

☐ Freight traffic noise mapping

☐ **Technical**

☐ Intelligent freight traffic routing

☐ IT logistics tools

☐ **Awareness**

☐ Promotional and awareness campaigns

☐ Eco-driving

☐ Freight Operators Recognition Scheme (FORS)

☒ **Governance**

☐ Local Freight Development Plan (LFDP)

☐ Distribution plan-scheme

☐ Freight Quality Partnership (FQP)

☒ Mobility / Transport Plans incorporating freight movements

☐ **Urban planning**

☐ Special urban planning conditions

Section 3: Expected impacts of the measure

3.1 Field of application/relevance

☒ Environmental (*air and noise pollution*)

☒ Energy (*energy consumption*)

☒ Economy (*retailers, manufactures, residents*)

☒ Safety and security (*drivers and vulnerable road users*)

☒ Transport efficiency (*optimization and costs efficiencies*)

☒ Land use and urban planning (*city administrations)*

3.2 Description of expected impacts of the measure (in qualitative terms)

Delivery of all plan measures should have significant benefits for the local environment, economy, accessibility and safety, as well as reduced energy consumption.

Section 4: Decision making process and involved stakeholders

4.1 Policy design of the measure

- ☒ Initiated/supported by public administrations
- ☐ Initiated/supported by private sector
- ☐ Initiated/supported by public-private partnerships

4.2 Involved and key supporting target group(s) stakeholders

- ☒ Administrations
- ☒ Freight carriers
- ☒ Shippers
- ☒ Residents

4.3 Description of concertation and cooperation levels with target group(s) stakeholders

Delivery of measures will require strong co-operation with a wide range of stakeholders

4.4 Average time needed for the policy design, sharing and operation start-up of the measure

- ☐ Less than 6 months
- ☐ 6 to 36 months
- ☒ More than 36 months

Section 5: Planning, implementation and monitoring of the measure

5.1 Description of drivers for success

Needs a close public-private collaboration to achieve Plan targets, a strong political will and sufficient staffing/funding within the municipality

5.2 Implementability (possible barriers)

☐ Possible political obstacles:

☐ Possible concertation and cooperation obstacles:

☐ Possible financial obstacles:

☐ Possible technical obstacles:

☐ Possible timeline obstacles: *Depending on the measures proposed in the Plan, there may be a range of significant obstacles, especially funding, in light of current austerity measures throughout the EU*

5.3 Innovativeness of the measure

Many towns and cities have transport strategies/plans of this kind.

5.4 Transferability

The measure can be replicated in any town/city.

Section 6: Good practices example

6.1 Reference site(s)

- Country : ***France***
- City : *Paris*
- Population : 2,211,297
- Area in km^2 : 105.4 km^2

6.2 Description of effectiveness of the measure (in qualitative or quantitative terms)

The Mobility Master Plan (MMP) was adopted by the Paris City Council in February 2007. The 2007 MMP represents the global transport policy of Paris, integrating, for the first time, urban goods movements. The MMP aims at improving air quality and public health, promoting accessibility and social justice, making the city more pleasant, increasing its economic performance. One of the main stated objectives is to reduce car traffic by 40% and greenhouse gas emissions by 60% by 2020. An important share of the document is devoted to freight transport. Main objectives of the MMP regarding freight.

2013: 60% increase in the total tonnage coming into Paris by railway, and 40% by waterway. Regional harmonisation of local truck access and delivery regulations. 2020: 110% increase in the total tonnage coming into Paris by railway, and 75% by waterway. Regional harmonisation of local regulations.

6.3 Lesson learned

Need for adequate funding/staffing and strong political support

6.4 More information: C-LIEGE UFT Database – Good Practice (GP) **Number 87**

Measure 39: Technical guidelines for delivery spaces

Section 1: Description of the measure

1.1 Description of the measure

These guidelines are designed to facilitate on-street deliveries, by giving specific metrics and rules when designing on-street delivery bays (in order to avoid piecemeal implementation, responding to individual shopkeepers' requests). The rules can be easily integrated into a software programme in order to have an automatic calculation of the number and size of on-street delivery bays needed.

1.2 Type of measure

- ☐ "**Push**" measure (disincentive)
- ☐ "**Pull**" measure (incentive)
- ☒ Combination of "**push-and-pull**" measures (disincentive and incentive)

Section 2: Category of the measure/field of application

☐ **Administrative**

- ☐ Access restrictions
- ☐ Access incentives
- ☐ Advance booking (un)loading areas
- ☐ Low Emission/Environmental Zone

☐ **Financial**

- ☐ Mobility credits schemes
- ☐ Congestion charging
- ☐ Vehicle financing models

☒ **Organizational**

- ☐ Freight traffic routing information
- ☐ Alternative delivery systems
- ☐ Freight traffic noise mapping

☒ Delivery guidelines

☐ **Technical**

☐ Intelligent freight traffic routing

☐ IT logistics tools

☐ **Awareness**

☐ Promotional and awareness campaigns

☐ Eco-driving

☐ Freight Operators Recognition Scheme (FORS)

☐ **Governance**

☐ Local Freight Development Plan (LFDP)

☐ Distribution plan-scheme

☐ Freight Quality Partnership (FQP)

☐ **Urban planning**

☐ Special urban planning conditions

Section 3: Expected impacts of the measure

3.1 Field of application/relevance

☒ Environmental (*air and noise pollution*)

☐ Energy (*energy consumption*)

☒ Economy (*retailers, manufactures, residents*)

☐ Safety and security (*drivers and vulnerable road users*)

☐ Transport efficiency (*optimization and costs efficiencies*)

☐ Land use and urban planning (*city administrations)*

3.2 Description of expected impacts of the measure (in qualitative terms)

By providing a coherent set of rules for deliveries, delays, obstruction and illegal parking can be avoided.

Section 4: Decision making process and involved stakeholders

4.1 Policy design of the measure

- ☒ Initiated/supported by public administrations
- ☐ Initiated/supported by private sector
- ☐ Initiated/supported by public-private partnerships

4.2 Involved and key supporting target group(s) stakeholders

- ☒ Administrations
- ☒ Freight carriers
- ☒ Shippers
- ☐ Residents

4.3 Description of concertation and cooperation levels with target group(s) stakeholders

Requires co-operation with the freight sector, shippers and parking managers

4.4 Average time needed for the policy design, sharing and operation start-up of the measure

- ☐ Less than 6 months
- ☐ 6 to 36 months
- ☒ More than 36 months

Section 5: Planning, implementation and monitoring of the measure

5.1 Description of drivers for success

Good support from the users of the delivery bays and transport companies' organizations

5.2 Implementability (possible barriers)

- ☐ Possible political obstacles:
- ☐ Possible concertation and cooperation obstacles:

☐ Possible financial obstacles:

☐ Possible technical obstacles:

☐ Possible timeline obstacles:

5.3 Innovativeness of the measure

Various other towns and cities have introduced measures to streamline and simplify freight deliveries

5.4 Transferability

The measure can be replicated in any town/city where there are issues of this kind.

Section 6: Good practices example

6.1 Reference site(s)

- Country : ***France***
- City : *Paris*
- Population : 2,211,297
- Area in km^2 : 105.4 km^2

6.2 Description of effectiveness of the measure (in qualitative or quantitative terms)

The content of the guidelines was defined by the Paris freight unit, in collaboration with the French research unit in charge of urban freight surveys. The guidelines now constitute the only reference allowed for delivery bay design and other French cities (like Lyon) have issued their own guidelines, with the same rules and recommendations. A national delivery guidebook, compliant with the Paris and Lyon versions, was issued in 2009.

6.3 Lesson learned

It is very important for a city to provide a coherent set of rules defining delivery bays, based on the needs of freight drivers. Delivery bays must accommodate the dimensions of delivery trucks and must make deliveries easier through adequate design.

6.4 More information: C-LIEGE UFT Database – Good Practice (GP) **Number 87**

Measure 40: Freight Operator Recognition Schemes (FORS), also known as Fleet Recognition Schemes

Section 1: Description of the measure

1.1 Description of the measure

Fleet Recognition schemes are voluntary schemes, usually free to join, designed to provide recognition, guidance and advice to road transport operators. An assessment is carried out of a fleet's overall road transport operation to recognise levels of legal compliance, operational and environmental performance and those complying with the required standards are branded accordingly. They exist as a mechanism to drive up standards in the freight sector.

1.2 Type of measure

- ☐ "**Push**" measure (disincentive)
- ☒ "**Pull**" measure (incentive)
- ☐ Combination of "**push-and-pull**" measures (disincentive and incentive)

Section 2: Category of the measure/field of application

☐ **Administrative**

- ☐ Access restrictions
- ☐ Access incentives
- ☐ Advance booking (un)loading areas
- ☐ Low Emission/Environmental Zone

☐ **Financial**

- ☐ Mobility credits schemes
- ☐ Congestion charging
- ☐ Vehicle financing models

☐ **Organizational**

- ☐ Freight traffic routing information
- ☐ Alternative delivery systems

- ☐ Freight traffic noise mapping
- ☐ Delivery guidelines

☐ **Technical**

- ☐ Intelligent freight traffic routing
- ☐ IT logistics tools

☒ **Awareness**

- ☐ Promotional and awareness campaigns
- ☐ Eco-driving
- ☒ Freight Operators Recognition Scheme (FORS)

☐ **Governance**

- ☐ Local Freight Development Plan (LFDP)
- ☐ Distribution plan-scheme
- ☐ Freight Quality Partnership (FQP)

☐ **Urban planning**

- ☐ Special urban planning conditions

Section 3: Expected impacts of the measure

3.1 Field of application/relevance

- ☒ Environmental (*air and noise pollution*)
- ☒ Energy (*energy consumption*)
- ☒ Economy (*retailers, manufactures, residents*)
- ☒ Safety and security (*drivers and vulnerable road users*)
- ☐ Transport efficiency (*optimization and costs efficiencies*)
- ☐ Land use and urban planning (*city administrations)*

3.2 Description of expected impacts of the measure (in qualitative terms)

The benefits of introducing FORS are likely to include the following:

- Improved road network performance
- Reduction in CO_2 emissions
- Injury and road risk reduction
- Local air quality management
- Ability to demonstrate positive action
- Tool for engagement with freight operators
- Improved stakeholder relations

FORS helps certified companies to improve the safety of their business, reduce their impact on the environment and increase efficiency.

Section 4: Decision making process and involved stakeholders

4.1 Policy design of the measure

☒ Initiated/supported by public administrations

☐ Initiated/supported by private sector

☐ Initiated/supported by public-private partnerships

4.2 Involved and key supporting target group(s) stakeholders

☒ Administrations

☒ Freight carriers

☒ Shippers

☐ Residents

4.3 Description of concertation and cooperation levels with target group(s) stakeholders

Requires close co-operation with the freight sector, shippers and trade associations

4.4 Average time needed for the policy design, sharing and operation start-up of the measure

☐ Less than 6 months

☒ 6 to 36 months

☐ More than 36 months

Section 5: Planning, implementation and monitoring of the measure

5.1 Description of drivers for success

Need to convince the industry partners to participate in the scheme. Offer of market incentives to promote involvement.

5.2 Implementability (possible barriers)

☐ Possible political obstacles:

☒ Possible concertation and cooperation obstacles: *Operators and trade associations may be doubtful of the benefits of taking part, especially if the scheme operates on a voluntary basis with no compulsion to join*

☒ Possible financial obstacles: *If audits are carried out to assess whether operators are compliant, funding must be found to carry out the audits*

☐ Possible technical obstacles:

☐ Possible timeline obstacles:

5.3 Innovativeness of the measure

FORS schemes, or similar, operate in a number of locations but are probably more applicable to larger cities

5.4 Transferability

The measure can be replicated in any city where there are sufficient freight operators accessing the city to justify investment in a scheme of this kind.

Section 6: Good practices example

6.1 Reference site(s)

- Country : UK
- City : *London*
- Population : 7,825,200
- Area in km^2 : 1,570 km^2

6.2 Description of effectiveness of the measure (in qualitative or quantitative terms)

In London, the scheme has been very successful, with around 800 registered companies which amounts to 86,000 vehicles. Scheme members have seen an increase in average fuel efficiency by more than 8% in less than 12 months, a reduction in accident rates of 41% in less than 12 months and a 58% reduction in Penalty Charge Notices in less than 12 months.

6.3 Lesson learned

Crucial to get buy-in and support from the freight sector

6.4 More information: C-LIEGE UFT Database – Good Practice (GP) **Number 37**

Measure 41: Multi-User Lanes

Section 1: Description of the measure

1.1 Description of the measure

To optimise the use of available street space, multi-functional lanes are introduced. Using VMS (Variable Message Sign System) technology, lanes can be designated for varying types of traffic and/or parking at various times of the day, including a "slot" for goods deliveries.

1.2 Type of measure

- ☐ "**Push**" measure (disincentive)
- ☐ "**Pull**" measure (incentive)
- ☒ Combination of "**push-and-pull**" measures (disincentive and incentive)

Section 2: Category of the measure/field of application

☐ **Administrative**

- ☐ Access restrictions
- ☐ Access incentives
- ☐ Advance booking (un)loading areas
- ☐ Low Emission/Environmental Zone

☐ **Financial**

- ☐ Mobility credits schemes
- ☐ Congestion charging
- ☐ Vehicle financing models

☐ **Organizational**

- ☐ Freight traffic routing information
- ☐ Alternative delivery systems
- ☐ Freight traffic noise mapping
- ☐ Delivery guidelines

☒ Multi-user lanes

☐ **Technical**

☐ Intelligent freight traffic routing

☐ IT logistics tools

☐ **Awareness**

☐ Promotional and awareness campaigns

☐ Eco-driving

☐ Freight Operators Recognition Scheme (FORS)

☐ **Governance**

☐ Local Freight Development Plan (LFDP)

☐ Distribution plan-scheme

☐ Freight Quality Partnership (FQP)

☐ **Urban planning**

☐ Special urban planning conditions

Section 3: Expected impacts of the measure

3.1 Field of application/relevance

☒ Environmental (*air and noise pollution*)

☒ Energy (*energy consumption*)

☐ Economy (*retailers, manufactures, residents*)

☐ Safety and security (*drivers and vulnerable road users*)

☒ Transport efficiency (*optimization and costs efficiencies*)

☒ Land use and urban planning (*city administrations)*

3.2 Description of expected impacts of the measure (in qualitative terms)

The main benefit of the multi-user lanes is improved traffic flow with less congestion and hence improvements in energy consumption and the environment.

Section 4: Decision making process and involved stakeholders

4.1 Policy design of the measure

- ☒ Initiated/supported by public administrations
- ☐ Initiated/supported by private sector
- ☐ Initiated/supported by public-private partnerships

4.2 Involved and key supporting target group(s) stakeholders

- ☒ Administrations
- ☒ Freight carriers
- ☒ Shippers
- ☒ Residents

4.3 Description of concertation and cooperation levels with target group(s) stakeholders

Requires close co-operation with a wide variety of bodies, including the freight sector, shippers, city planners, retailers, chambers of commerce, motorists and public transport operators.

4.4 Average time needed for the policy design, sharing and operation start-up of the measure

- ☐ Less than 6 months
- ☒ 6 to 36 months
- ☐ More than 36 months

Section 5: Planning, implementation and monitoring of the measure

5.1 Description of drivers for success

Availability of necessary infrastructure A legal basis must exist or can be adopted for designation of multi-user lanes Effective enforcement is critical so that the measures are respected by all users, especially at the beginning.

5.2 Implementability (possible barriers)

☐ Possible political obstacles:

☐ Possible concertation and cooperation obstacles:

☒ Possible financial obstacles: *Need for investment in VMS systems to regulate the multi-user lanes, plus necessary enforcement staff*

☒ Possible technical obstacles: *Important to ensure that all users respect and obey the designated timeslots. Failure to effectively enforce the system will result in it being abused and ignored*

☐ Possible timeline obstacles:

5.3 Innovativeness of the measure

Although priority lanes are widely used, we are not aware of any other cities which operate timed multi-user lanes of this kind

5.4 Transferability

The measure is replicable, but requires investment in VMS systems, signage and sufficient enforcement staff.

Section 6: Good practices example

6.1 Reference site(s)

- Country : **Spain**
- City : Barcelona
- Population : 1,621,537
- Area in km^2 : 101.9 km^2

6.2 Description of effectiveness of the measure (in qualitative or quantitative terms)

The multi-use lanes have been successful in optimising the use of street space and improving traffic flow. The main result has been a reduction of between 12-15% in travel time.

6.3 Lesson learned

The municipality is a key stakeholder. Also, preliminary studies are critical to identify the needs and set up an inventory of the possible measures.

6.4 More information: C-LIEGE UFT Database – Good Practice (GP) **Number 10**

Measure 42: Night deliveries

Section 1: Description of the measure

1.1 Description of the measure

The objective of the night time delivery policy is to reduce daytime congestion by allowing night deliveries in city centre areas, using “quiet” trucks to conform to noise legislation.

1.2 Type of measure

- ☒ “**Push**” measure (disincentive)
- ☐ “**Pull**” measure (incentive)
- ☐ Combination of “**push-and-pull**” measures (disincentive and incentive)

Section 2: Category of the measure/field of application

The urban mobility plan could include some or all of the following categories

☐ **Administrative**

- ☐ Access restrictions
- ☐ Access incentives
- ☐ Advance booking (un)loading areas
- ☐ Low Emission/Environmental Zone

☐ **Financial**

- ☐ Mobility credits schemes
- ☐ Congestion charging
- ☐ Vehicle financing models

☒ **Organizational**

- ☐ Freight traffic routing information
- ☒ Alternative delivery systems

☐ **Technical**

- ☐ Intelligent freight traffic routing
- ☐ IT logistics tools

☐ **Awareness**

- ☐ Promotional and awareness campaigns
- ☐ Eco-driving
- ☐ Freight Operators Recognition Scheme (FORS)

☐ **Governance**

- ☐ Local Freight Development Plan (LFDP)
- ☐ Distribution plan-scheme
- ☐ Freight Quality Partnership (FQP)

☐ **Urban planning**

- ☐ Special urban planning conditions

Section 3: Expected impacts of the measure

3.1 Field of application/relevance

- ☒ Environmental (*air and noise pollution*)
- ☒ Energy (*energy consumption*)
- ☒ Economy (*retailers, manufactures, residents*)
- ☐ Safety and security (*drivers and vulnerable road users*)
- ☒ Transport efficiency (*optimization and costs efficiencies*)
- ☐ Land use and urban planning (*city administrations)*

3.2 Description of expected impacts of the measure (in qualitative terms)

Reduction in daytime congestion, whilst still conforming to night-time noise legislation

Section 4: Decision making process and involved stakeholders

4.1 Policy design of the measure

- ☒ Initiated/supported by public administrations
- ☐ Initiated/supported by private sector
- ☐ Initiated/supported by public-private partnerships

4.2 Involved and key supporting target group(s) stakeholders

- ☐ Administrations
- ☒ Freight carriers
- ☒ Shippers
- ☐ Residents

4.3 Description of concertation and cooperation levels with target group(s) stakeholders

At the good practice site: City of Barcelona (Municipal Mobility Services, Municipal Noise Unit) and three private transport operators (Mercadona, Condis and Lidl), also Renault, Iveco.

4.4 Average time needed for the policy design, sharing and operation start-up of the measure

- ☐ Less than 6 months
- ☒ 6 to 36 months
- ☐ More than 36 months

Section 5: Planning, implementation and monitoring of the measure

5.1 Description of drivers for success

Active input and participation from all stakeholders, including good communications with local residents

5.2 Implementability (possible barriers)

- ☐ Possible political obstacles:

☒ Possible concertation and cooperation obstacles: *Local residents may constitute an obstacle for night time deliveries, but this is not always the case. Good communication between shop owners, the municipality and the residents is necessary when introducing night-time delivery schemes.*

☐ Possible financial obstacles:

☐ Possible technical obstacles:

☒ Possible timeline obstacles:

5.3 Innovativeness of the measure

This is an innovative measure, especially as other cities are seeking to restrict or ban night-time deliveries

5.4 Transferability

Applicable to all municipalities.

Section 6: Good practices example

6.1 Reference site(s)

- Country : **Spain**
- City : Barcelona
- Population : 1,621,537
- Area in km^2 : 101.9 km^2

6.2 Description of effectiveness of the measure (in qualitative or quantitative terms)

Social Benefits The PIEK target of 65 dB (A) could be met, but not the city target of 60 dB (A) Vehicle technology has much improved and the equipment allows the vehicle to meet the target. However, much care is still required from the driver and the personnel for the unloading operations at night in on-street loading bays, in front of the shops. The programme has generated improved knowledge. It shows that operators are only partially successful (in 45% of cases) in unloading within the ambient noise conditions It also identifies which are the most important noise sources (truck arrival in 62% of cases, goods unloading in 15% of cases).

6.3 Lesson learned

One important lesson is that two large lorries (40 tonnes) at night replace seven medium size trucks commonly used during daytime. Out of hours deliveries avoids daytime congestion and allow a time reduction per trip of around 1 hour. Faster delivery using bigger vehicles enables the operator to generate savings sufficient to achieve a return on investment (of adapted 40 tonne trucks) within 3 years (Mercadona operator) and a return on investment for plastified roll-cages used with 16 tonne trucks (Condis operator) of 15 months.

6.4 More information: C-LIEGE UFT Database – Good Practice (GP) **Number 10**

Measure 43: Using building code regulations for off-street delivery areas

Section 1: Description of the measure

1.1 Description of the measure

This measure involves the use of building code regulations to ensure that new business premises provide adequate space for goods handling and storage. By ensuring that they have suitable off-street delivery areas or storage zones, this should reduce the number of on-street loading/unloading activities which can cause congestion and obstruction, generating a high number of delivery trucks and a heavy burden on public streets. Markets, bars and restaurants might be particularly appropriate for this measure, as they generate very frequent deliveries (especially for beverages).

1.2 Type of measure

- ☒ "**Push**" measure (disincentive)
- ☐ "**Pull**" measure (incentive)
- ☐ Combination of "**push-and-pull**" measures (disincentive and incentive)

Section 2: Category of the measure/field of application
The urban mobility plan could include some or all of the following categories

- ☐ **Administrative**
  - ☐ Access restrictions
  - ☐ Access incentives
  - ☐ Advance booking (un)loading areas
  - ☐ Low Emission/Environmental Zone
- ☐ **Financial**
  - ☐ Mobility credits schemes
  - ☐ Congestion charging
  - ☐ Vehicle financing models
- ☐ **Organizational**
  - ☐ Freight traffic routing information

☐ Alternative delivery systems

☐ **Technical**

☐ Intelligent freight traffic routing

☐ IT logistics tools

☐ **Awareness**

☐ Promotional and awareness campaigns

☐ Eco-driving

☐ Freight Operators Recognition Scheme (FORS)

☐ **Governance**

☐ Local Freight Development Plan (LFDP)

☐ Distribution plan-scheme

☐ Freight Quality Partnership (FQP)

☒ **Urban planning**

☒ Special urban planning conditions

Section 3: Expected impacts of the measure

3.1 Field of application/relevance

☒ Environmental (*air and noise pollution*)

☒ Energy (*energy consumption*)

☒ Economy (*retailers, manufactures, residents*)

☒ Safety and security (*drivers and vulnerable road users*)

☒ Transport efficiency (*optimization and costs efficiencies*)

☒ Land use and urban planning (*city administrations)*

3.2 Description of expected impacts of the measure (in qualitative terms)

This measure is expected to reduce the adverse impacts associated with congestion (poor air quality, damage to the economy, reduced quality of life) by minimising the amount of loading/unloading and general goods handling that occurs on the streets.

Section 4: Decision making process and involved stakeholders

4.1 Policy design of the measure

☒ Initiated/supported by public administrations

☐ Initiated/supported by private sector

☐ Initiated/supported by public-private partnerships

4.2 Involved and key supporting target group(s) stakeholders

☒ Administrations

☐ Freight carriers

☒ Shippers

☒ Residents

4.3 Description of concertation and cooperation levels with target group(s) stakeholders

At the reference site, stakeholders included the City of Barcelona (Municipal Mobility Services, Municipal Noise Unit), Institut de Mercats de Barcelona (IMB), the Municipality (Department of Urban Planning), Districts and Citizens' Associations, the 10 Districts, private developers and ECAs (agencies: Entitat Colaboradora de la Administració).

4.4 Average time needed for the policy design, sharing and operation start-up of the measure

☐ Less than 6 months

☒ 6 to 36 months

☐ More than 36 months

Section 5: Planning, implementation and monitoring of the measure

5.1 Description of drivers for success

Effective enforcement and political support

5.2 Implementability (possible barriers)

☒ Possible political obstacles: *There may be political objections due to the increased costs for new businesses, especially at a time of economic austerity*

☒ Possible concertation and cooperation obstacles: *Businesses may object to the increased costs of providing dedicated storage / unloading facilities*

☐ Possible financial obstacles:

☐ Possible technical obstacles:

☒ Possible timeline obstacles: *It is only possible to apply this measure in respect of new business premises (existing premises may simply not have space to comply with the requirements), therefore it is likely to be a considerable time before positive results are seen from the measure*

5.3 Innovativeness of the measure

This is an innovative measure, involving the use of building regulations to reduce obstructions caused by loading/unloading vehicles. It is, however, a long-term measure which will not produce rapid results

5.4 Transferability

Not all cities have municipal markets. In some other European countries, it is not legally possible to require shops or restaurants to reserve a percentage of their floor area for storage. This type of regulation would confront and limit freedom of commerce.

In most countries, however, it is perfectly possible to oblige new commercial buildings to accommodate off-street delivery areas within their premises. In Paris, all commercial buildings of at least 500 m² have to accommodate at least one off-street delivery area.

Section 6: Good practices example

6.1 Reference site(s)

- Country : **Spain**
- City : Barcelona
- Population : *1,621,537*
- Area in km^2 : *101.9 km^2*

6.2 Description of effectiveness of the measure (in qualitative or quantitative terms)

This is a long-term measure which will not produce rapid results

6.3 Lesson learned

Municipal markets: the redesign of municipal buildings and the surrounding public space is an opportunity to improve goods delivery conditions. Private developments: The typology of streets and commercial activity in Mediterranean cities generates on street deliveries that can negatively affect the circulation of motorised and non-motorised traffic. Making requirements for off-street unloading can reduce such problems

6.4 More information: C-LIEGE UFT Database – Good Practice (GP) **Number 10**

Measure 44: Eco-driving training

Section 1: Description of the measure

1.1 Description of the measure

By more efficient driving, fuel savings and CO2 reductions can be achieved. This involves a series of training sessions such as presentations, vehicle checks, driver debriefs, demo drives, initial and assessed drives, knowledge test and final debrief. The progress of participants is recorded and each driver receives a written driver assessment and certificate on course completion.

1.2 Type of measure

- ☐ "**Push**" measure (disincentive)
- ☒ "**Pull**" measure (incentive)
- ☐ Combination of "**push-and-pull**" measures (disincentive and incentive)

Section 2: Category of the measure/field of application
The urban mobility plan could include some or all of the following categories

☐ **Administrative**

- ☐ Access restrictions
- ☐ Access incentives
- ☐ Advance booking (un)loading areas
- ☐ Low Emission/Environmental Zone

☐ **Financial**

- ☐ Mobility credits schemes
- ☐ Congestion charging
- ☐ Vehicle financing models

☐ **Organizational**

- ☐ Freight traffic routing information
- ☐ Alternative delivery systems

☐ **Technical**

- ☐ Intelligent freight traffic routing
- ☐ IT logistics tools

☒ **Awareness**

- ☐ Promotional and awareness campaigns
- ☒ Eco-driving
- ☐ Freight Operators Recognition Scheme (FORS)

☐ **Governance**

- ☐ Local Freight Development Plan (LFDP)
- ☐ Distribution plan-scheme
- ☐ Freight Quality Partnership (FQP)

☐ **Urban planning**

- ☐ Special urban planning conditions

Section 3: Expected impacts of the measure

3.1 Field of application/relevance

- ☒ Environmental (*air and noise pollution*)
- ☒ Energy (*energy consumption*)
- ☒ Economy (*retailers, manufactures, residents*)
- ☒ Safety and security (*drivers and vulnerable road users*)
- ☒ Transport efficiency (*optimization and costs efficiencies*)
- ☐ Land use and urban planning (*city administrations)*

3.2 Description of expected impacts of the measure (in qualitative terms)

Savings in fuel use and CO2 reductions.

Section 4: Decision making process and involved stakeholders

4.1 Policy design of the measure

☒ Initiated/supported by public administrations

☐ Initiated/supported by private sector

☐ Initiated/supported by public-private partnerships

4.2 Involved and key supporting target group(s) stakeholders

☐ Administrations

☒ Freight carriers

☐ Shippers

☐ Residents

4.3 Description of concertation and cooperation levels with target group(s) stakeholders

Need for support and buy-in from freight operators plus backing from road safety organisations

4.4 Average time needed for the policy design, sharing and operation start-up of the measure

☐ Less than 6 months

☒ 6 to 36 months

☐ More than 36 months

Section 5: Planning, implementation and monitoring of the measure

5.1 Description of drivers for success

1) Funding to implement the eco-driving programme 2) Support from the freight sector

5.2 Implementability (possible barriers)

☐ Possible political obstacles:

☒ Possible concertation and cooperation obstacles: *Operators with smaller fleets may be unwilling to take drivers off the road for this type of training*.

☐ Possible financial obstacles:

☐ Possible technical obstacles:

☐ Possible timeline obstacles:

5.3 Innovativeness of the measure

Eco-driving schemes are in place in a number of cities and some companies have been introducing eco driving training themselves, in order to save fuel

5.4 Transferability

Transferable to any municipality

Section 6: Good practices example

6.1 Reference site(s)

- Country : **United Kingdom**
- City : Bristol
- Population : 441,300
- Area in km^2 : 110 km^2

6.2 Description of effectiveness of the measure (in qualitative or quantitative terms)

Through actively monitoring and managing the fuel used by vehicles, it has been found that a fleet's fuel consumption can typically be reduced by 10% leading to an equivalent reduction in costs. The use of safe and efficient driving techniques as part of fleet efficiency management will make a major contribution to this fuel saving. Before and after fuel monitoring of participants in this measure has shown fuel savings of between 8 – 13%. These results clearly show the benefits achievable from this training, and it is proposed to continue this initiative after the completion of the START project, in tandem with training that is being offered to car vehicle drivers as well.

6.3 Lesson learned

It is important to demonstrate that more efficient practices are able to provide operational benefits

6.4 More information: C-LIEGE UFT Database – Good Practice (GP) **Number 42**

Measure 45: Access restrictions for polluting freight vehicles (see also Measure 39)

Section 1: Description of the measure

1.1 Description of the measure

This measure involves the introduction of access restrictions to town/city centres for the most polluting freight vehicles.

1.2 Type of measure

- ☒ "**Push**" measure (disincentive)
- ☐ "**Pull**" measure (incentive)
- ☐ Combination of "**push-and-pull**" measures (disincentive and incentive)

Section 2: Category of the measure/field of application
The urban mobility plan could include some or all of the following categories

☒ **Administrative**

- ☒ Access restrictions
- ☐ Access incentives
- ☐ Advance booking (un)loading areas
- ☐ Low Emission/Environmental Zone

☐ **Financial**

- ☐ Mobility credits schemes
- ☐ Congestion charging
- ☐ Vehicle financing models

☐ **Organizational**

- ☐ Freight traffic routing information
- ☐ Alternative delivery systems

☐ **Technical**

- ☐ Intelligent freight traffic routing

☐ IT logistics tools

☐ **Awareness**

☐ Promotional and awareness campaigns

☐ Eco-driving

☐ Freight Operators Recognition Scheme (FORS)

☐ **Governance**

☐ Local Freight Development Plan (LFDP)

☐ Distribution plan-scheme

☐ Freight Quality Partnership (FQP)

☐ **Urban planning**

☐ Special urban planning conditions

Section 3: Expected impacts of the measure

3.1 Field of application/relevance

☒ Environmental (*air and noise pollution*)

☒ Energy (*energy consumption*)

☒ Economy (*retailers, manufactures, residents*)

☒ Safety and security (*drivers and vulnerable road users*)

☒ Transport efficiency (*optimization and costs efficiencies*)

☐ Land use and urban planning (*city administrations)*

3.2 Description of expected impacts of the measure (in qualitative terms)

These restrictions are expected to stimulate the use of clean and energy-efficient vehicles, to decrease delivery times, energy use and pollution, as well as to significantly reduce the amount of freight traffic in town/city centres.

Section 4: Decision making process and involved stakeholders

4.1 Policy design of the measure

☒ Initiated/supported by public administrations

☐ Initiated/supported by private sector

☐ Initiated/supported by public-private partnerships

4.2 Involved and key supporting target group(s) stakeholders

☐ Administrations

☒ Freight carriers

☐ Shippers

☐ Residents

4.3 Description of concertation and cooperation levels with target group(s) stakeholders

Requires liaison with freight operators and shippers

4.4 Average time needed for the policy design, sharing and operation start-up of the measure

☐ Less than 6 months

☐ 6 to 36 months

☒ More than 36 months

Section 5: Planning, implementation and monitoring of the measure

5.1 Description of drivers for success

Adequate budget to carry out necessary signage and enforcement

5.2 Implementability (possible barriers)

☐ Possible political obstacles:

☒ Possible concertation and cooperation obstacles: *May be objections from shippers and operators to the extra costs involved, especially at a time of economic austerity when they cannot afford to renew older vehicles*

☒ Possible financial obstacles: *Funding necessary to develop, sign and enforce the zone*

☐ Possible technical obstacles:

☐ Possible timeline obstacles:

5.3 Innovativeness of the measure

Similar to Environmental Zones, which are in use in a number of locations (see Measure 35)

5.4 Transferability

Section 6: Good practices example

6.1 Reference site(s)

- Country : **Italy**
- City : Brescia,
- Population : 197,250
- Area in km^2 : 90.7 km^2

6.2 Description of effectiveness of the measure (in qualitative or quantitative terms)

Expectations: - 60 percent decrease in the average weighting factor; - 20 percent decrease in commercial traffic flow during rush hour; - 15 percent increase in clean vehicles; - 10 percent decrease in the distance covered by freight deliveries; and -20 percent decrease in delivery times. Social Benefits Crucial Success Factors Demonstrating that more efficient practices are able to provide operational benefits

6.3 Lesson learned

6.4 More information: C-LIEGE UFT Database – Good Practice (GP) **Number 7**